Leica photography

FALL—WINTER 1953
25¢
VOL. 6 NOS. 3 & 4

The Leitz Focomat Is the Enlarger Designed for All 35mm Negatives

If you own a 35mm camera, the Focomat enlarger belongs in your darkroom. This superb instrument was designed expressly for the enlargement of miniature negatives by the makers of the precision Leica.

The design of the Focomat combines the principles of condenser-type and diffusion-type enlargers. It minimizes grain, dust spots or scratches; it maximizes image brilliance and detail and thus is perfect for the 35mm negative.

There are two Focomats. The Ic (top) will use any Leica 50mm lens (except f/1.5) although a 50mm Focotar f/4.5 lens is available. It has a 16 x 21 inch baseboard. It focuses automatically from 2 to 10 diameters. It takes negatives from 35mm (single or double frame) up to 1⅔ x 1⅔ inches.

The IIa (bottom) is equipped with a lens turret which carries both the Focotar 50mm f/4.5 and the Focotar 95mm f/4.5. It has 20½ x 27 inch baseboard. It focuses automatically from 2 to 13 diameters with the 50mm lens and from 1.3 to 4.8 diameters with the 95mm lens. It takes negatives from 35mm (single or double frame) to 2½ x 3½ inches. Both Focomats are equipped with built-in light switches, quick-clamping arm for easel, 32-inch upright pillars, spring-balanced lamp housings, helical lens mounts for manual focus at larger diameters.

Your Leica dealer will be happy to demonstrate either model.

Leica

world's most famous camera

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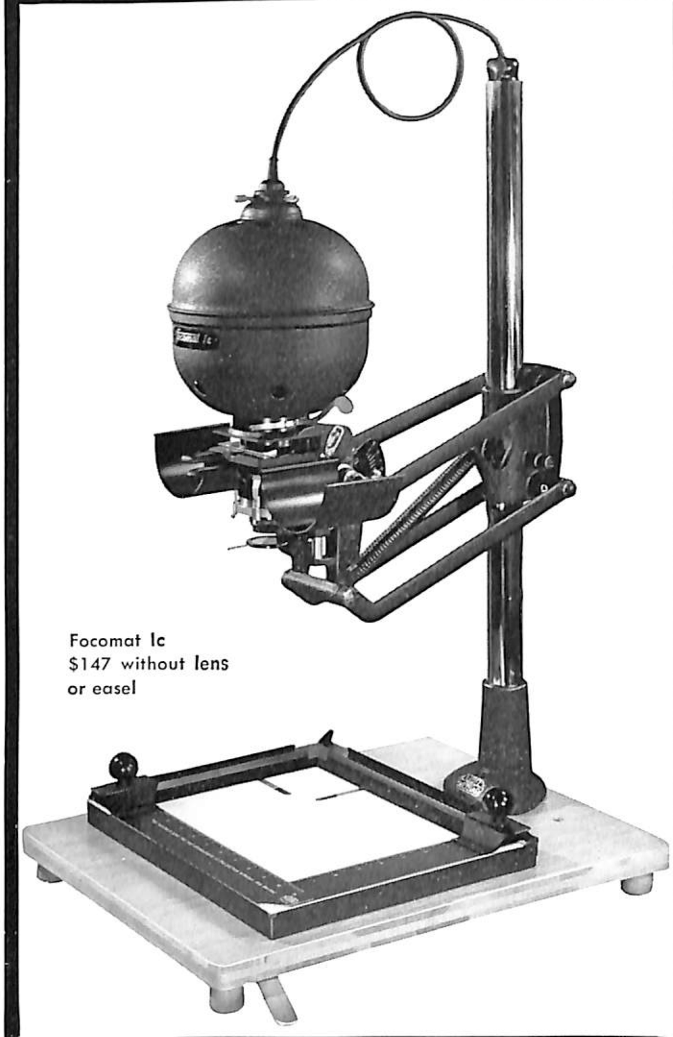
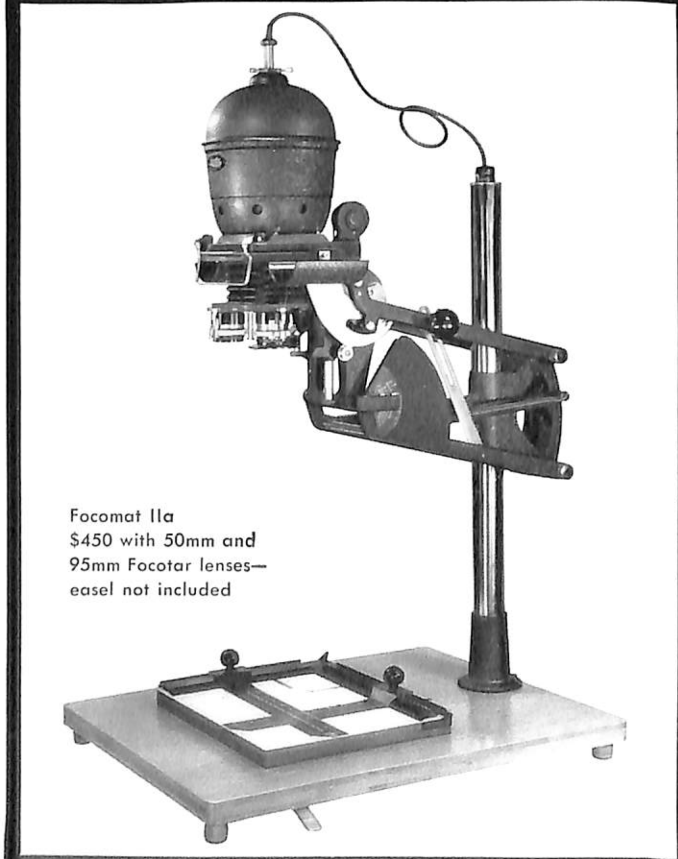


Focomat Ic
$147 without lens
or easel



Focomat IIa
$450 with 50mm and
95mm Focotar lenses—
easel not included

Leica photography

FALL–WINTER 1953

25¢

VOL. 6 NOS. 3 & 4

Editor
STANLEY C. SAMUEL

Contributing Editors
John F. Brooks
Julius Huisgen

Production
Florence Zubowicz

Circulation
Ann Errico

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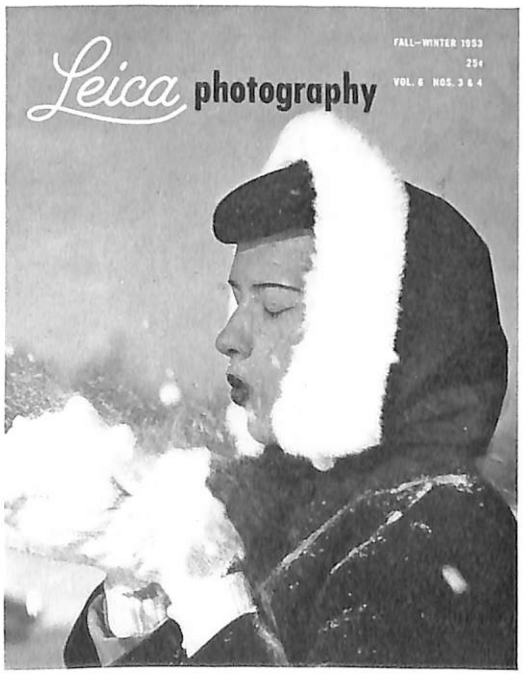

"LIGHT AS A FEATHER"—Leica photo by Herbert Weihrich, Buffalo, New York. Leica IIIf, Elmar 90mm. lens, f/5.6 at 1/60th of a second, Skylight filter.

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The editor will be pleased to consider original articles and photographs on Leica camera photography. All manuscripts should be accompanied by stamped, self-addressed return labels.

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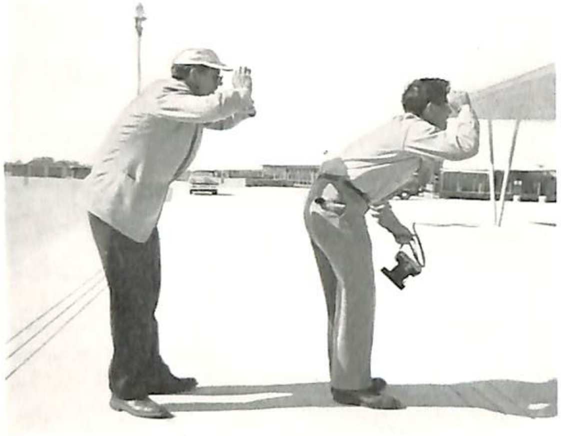


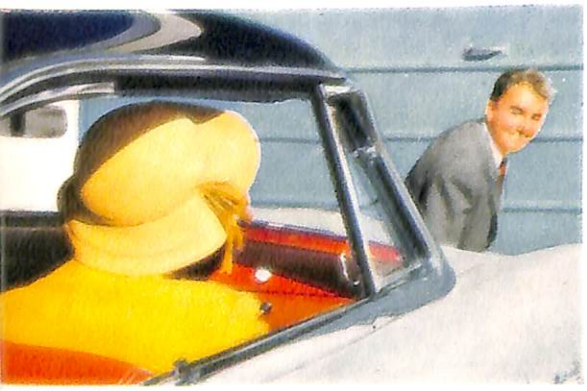
Cle Clark

MERCURY

Bob Landry

Bob Landry

Cle Clark



Cle Clark

John Rawlings

New Center

Cle Clark

EDITOR'S NOTE:
The Lincoln and Mercury divisions of Ford Motor Company are doing their most successful and significant automotive advertising in a great number of years. Both campaigns are done in photography and are unique in their unusual concepts in the use of the medium. This article tells the how and why of the Mercury automobile advertising photography which is for the most part done with Leica and other 35mm. equipment. The advertising is prepared by Kenyon and Eckhardt Inc., New York and Detroit. The art directors are William Rienecke of New York and Bill Johnson of Detroit.

A CASE HISTORY OF A SUCCESSFUL ADVERTISING CAMPAIGN DONE IN 35mm PHOTOGRAPHY

by Bill Johnson
Senior Art Director
Detroit office of
Kenyon and Eckhardt Inc.

The problem: how to produce, to specific needs, literally hundreds of unusual color photographs in the most efficient possible way.

The purpose was for the picture and caption advertising campaign William Rienecke had created for our client, the Mercury Division of Ford Motor Company. Preliminary ideas and plans for a picture campaign had been enthusiastically received by our client and now we had to explore the problem of how to best produce the photographs and make a final presentation indicating the potential and effectiveness of the technique.

We had created a campaign in which each advertisement would contain a series of color photographs illustrating the many fine features of our product. Our problem was to illustrate its styling, performance, capabilities, economy, and its many other features which set it apart from other cars. With this unusual picture technique, we proposed to attract the reader, establish that our product had unusual vitality and character, and induce him to visit his dealer for a demonstration.

Each advertisement had to have the feeling of being a complete demonstration of the product in pictures. We knew that the car itself had tremendous spirit in its styling and performance and we wished to convey that to the reader. The photographs had to be brilliant and fairly sparkle. The product had to shine, and we had to faithfully reproduce its many rich, lively color combinations, inside and out. The photographs illustrating the performance of the car on superhighways, curves, hills, and showing its general handling ease, needed to be action-packed and convincing. In order to express most effectively the spirit of the car, the people in the pictures had to appear as vigorous, average Americans, not as stilted, posed models.

In addition to these qualities we demanded of our pictures, we had numerous other elements that had to be satisfactorily accounted for. The transparencies had to be suitable for considerable enlargement if neces-

Bob Landry

Bob Landry

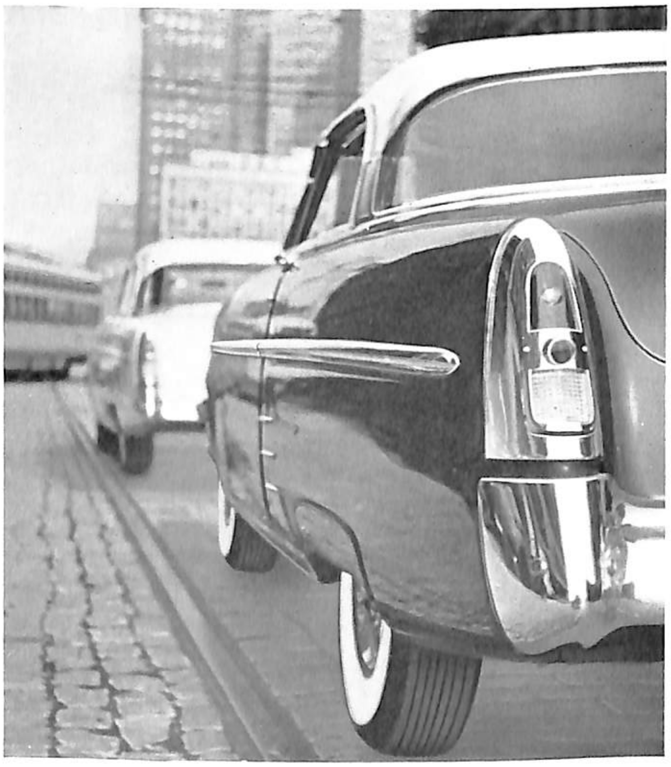
sary. The whole procedure of taking so many pictures could involve tremendous production costs and man hours. Reasonable art budgets for each advertisement dictated that a big production could not be made of each picture where so many pictures were involved. Model fees, traveling time, location hunting, and the photographer's time had to be used as efficiently as possible or the expenses could soon get out of hand. We proposed to make the best possible pictures expressing the spirit of our car, in a variety of locations that often are extremely difficult to photograph. All this had to be accomplished within the framework of a reasonable art budget and meant that our production had to be fast and efficient.

After a thorough discussion of the problems and objectives with the account executives and copy writers, our next step was to select the photographer. The photographer had to be a competent artist. He had to be extremely versatile and ingenious. He had to be a good technician and know all types of color equipment. We knew that 35mm. equipment would make the best pictures under the most varied circumstances, and efficiently meet our production problems. The photographer, Cle Clark, was called in and the problem and objectives were presented to him. Without hesitation he agreed that 35mm. was right for the job to be done.

However, before committing ourselves, our account management asked us to explore the full potential of the picture technique. This would also furnish us with photographs which would help us, and the advertising manager, make a good presentation of the picture campaign idea to top level management of the Mercury Division. In doing so, we had an opportunity to test 35mm. equipment as to its efficiency and actual merit in producing unusual automobile photographs.

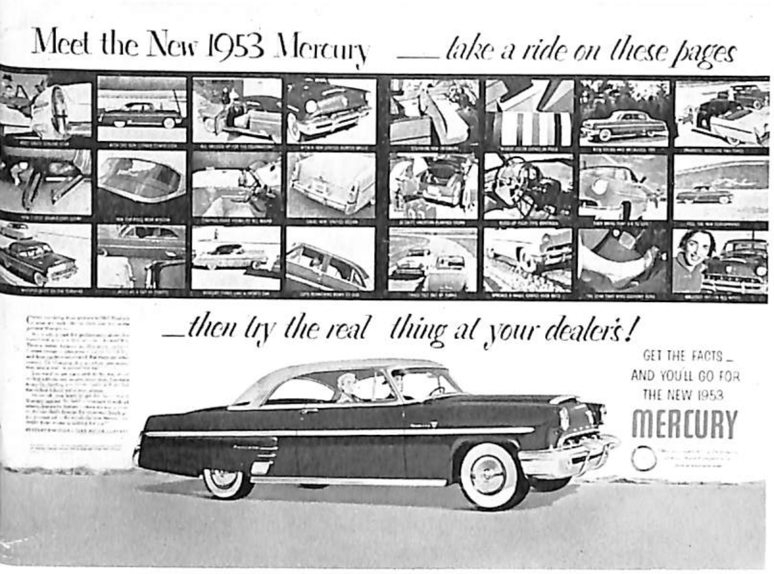
Three days were spent doing experimental photographs in 35mm. We set about devising unusual pictorial compositions that could be made in limited working areas, avoiding excessive travel time. We explored ways of making winter pictures in the summer. We experimented with pictures that required faithful reproductions of the various car colors. We made pictures that required extreme depth-of-field. We experimented with filters. We made pictures to check viewfinders and the resultant effects on composition. We photographed in all kinds of light. We experimented with exposures and several types of lenses. We experimented in ways of getting especially animated figures in our pictures. We searched for new ways of photographing a car. The value of maneuverability of 35mm. equipment became more apparent as we went along. This proved especially true in taking pictures of cars in traffic, on expressways, and at extremely high eye levels. We checked our graphic arts suppliers and determined that there were *no problems in reproduction and engraving*.

With quite a number of successful experimental photographs in hand, a presentation of the picture campaign idea in a more comprehensive form was made to the client. Color prints were made for a few actual size comprehensive layouts. After these layouts were shown in the meeting, the lights were dimmed and the 35mm. slides were projected on a large screen for closer inspection by the group of clients. The projections were sharp, brilliant, and faithful. Because of our intensive experimenting, we had quite a number of impressively different ways of merchandising an automobile. The whole advertising idea was received with tremendous enthusiasm.



With the campaign idea approved, we went into production on the complete series of advertisements.

As the campaign progressed, many other thoughts about 35mm. photography were borne out. The equip-


Meet the New 1953 Mercury — take a ride on these pages
—then try the real thing at your dealer's!
GET THE FACTS— AND YOU'LL GO FOR THE NEW 1953
MERCURY

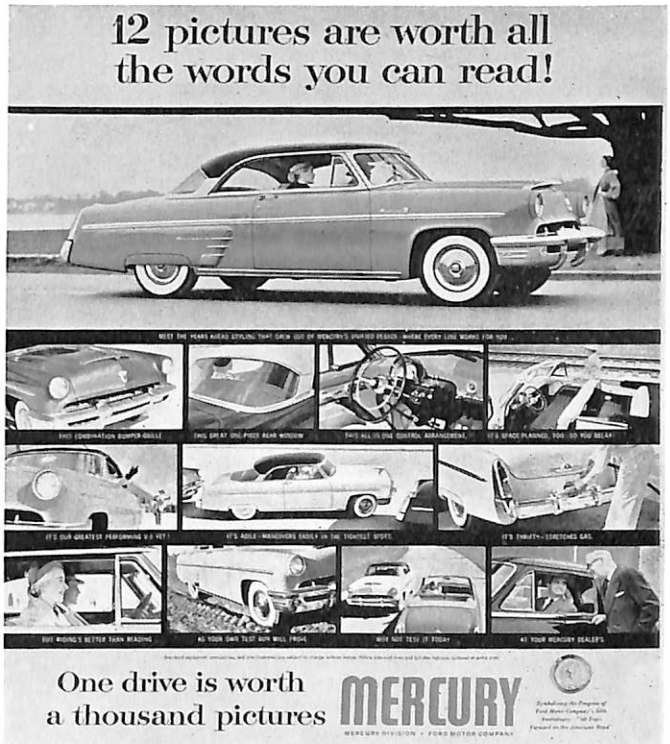
ment involved was simple to move about from one location to another around the country. By means of a table-top viewer the transparencies were easy for our client to inspect. *Engravers had no particular difficulties in reproducing them.* As we had planned, the characteristics of Kodachrome gave us pure and simple color design in our pictures. We felt that this was important in that, using a number of small pictures in an advertisement, the simplicity of Kodachrome color patterning would be more effective than the subtleties and gradations in other film. In using a volume of pictures, 35mm. is simple to study with a good viewer and easy to handle and file. Most of our work is done in large shooting sessions just two or three times a year and filed in a library from which we select pictures as new advertisements are designed. Being relatively simple to do, we usually make test shots to learn the characteristics of a particular Kodachrome emulsion. Our 35mm. equipment gives us brilliant and technically good transparencies and is versatile enough to take almost any type of a picture we need.

In taking automobile action shots, maneuverability is extremely important. We find that we can hand-hold and scramble in and out of busy city traffic and get our pictures without creating a traffic jam or risking a photographer. We can hand-hold and pan, or shoot fast on a high speed expressway. We can shoot from a moving convertible out on the open road. We can climb buildings, trees, cliffs, all types of vantage points and take photographs that are unusual and virtually impossible to obtain with other equipment. The easy interchangeability of a wide variety of lenses is very important when in a tight spot and you realize you need a change to make the picture *right*. Therefore, 35mm. equipment gives us a chance to be opportunists and get exciting pictures during those fleeting seconds when a picture "just happens"—pictures you could so easily miss in fumbling around with bigger equipment.

In its maneuverability lies the story of the value of 35mm. equipment to us. Having compact and lightweight equipment, the photographer can move around freely and quickly in looking for good composition. He can move up and down easily without encountering difficult viewing. The art director can view the composition without trying to get two heads in a viewer by simply carrying a corresponding viewer in hand. As the photographer is able to move more easily he is thus more efficiently using his time, the model's time, and that of his production crew.

This efficiency of operation not only saves time, which often is important in meeting our deadlines, but also results in considerable economy in overall cost of pictures. In working more efficiently, the overhead cost factor per picture is reduced greatly.

Selling and advertising being so competitive, we must continually seek new ways of doing pictures. Most new pictures don't just come out of the head. You have to find them; you must have time to look. You have to create them; you must have time to experiment.

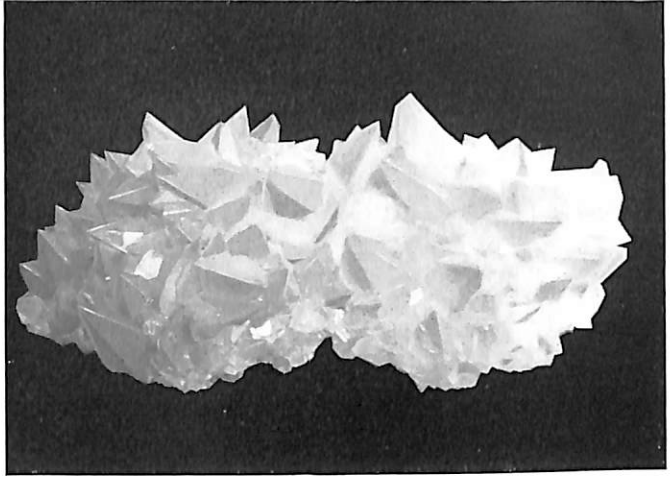

12 pictures are worth all the words you can read!
One drive is worth a thousand pictures
MERCURY
MERCURY DIVISION • FORD MOTOR COMPANY

In many a given situation, we find 35mm. equipment will relieve us of much of the time-consuming physical limitations of larger equipment and release us to experiment, take greater numbers of pictures, or just plain take a second think about the picture we are about to make. In animated figure photography, taking a lot of pictures is quite often necessary in order to catch the right gesture. With 35mm. we can shoot a lot of action without wasting time or money.

Therefore, 35mm. is the most complete equipment for most of our problems in doing Mercury advertising, and we expect to continue using it for the duration of the picture campaign. Besides all this, it's a whale of a lot of fun. ◈

PHOTOGRAPHING MINERALS WITH THE LEICA

by Harry B. Groom, Jr.
Louisiana Polytechnic Institute, Ruston, La.

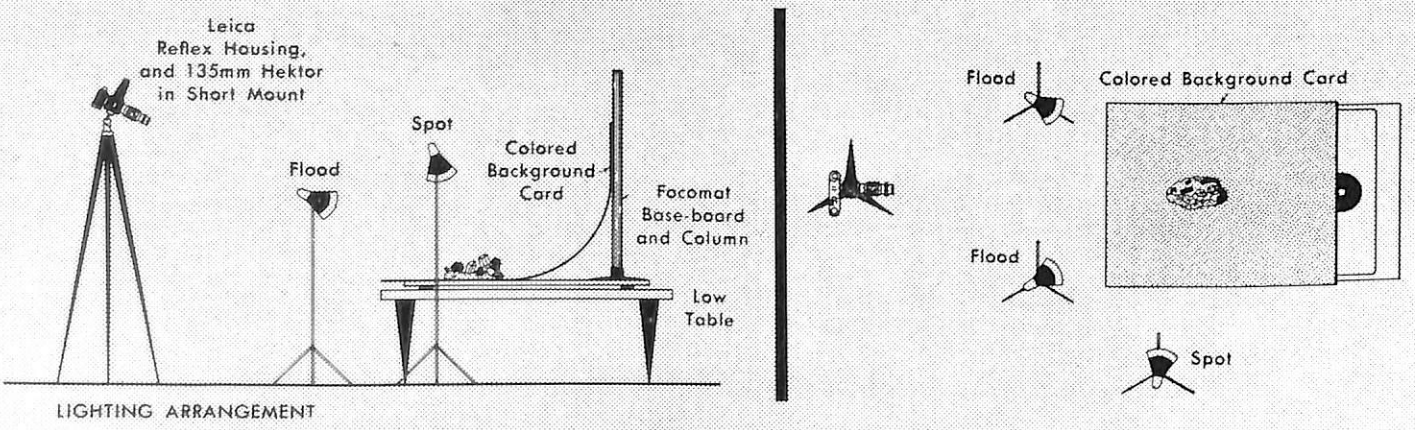


Mineral photography is specialized photography. It offers the Leica photographer an opportunity to make use of the great versatility of his camera. The extreme precision of camera body construction, the high resolution, and color correction of the lenses, and the high standards of versatility and precise adaptability of all accessories make Leica equipment admirably suited to the photography of mineral specimens.

Nowhere in nature are more brilliant or more diverse colors to be found than in the mineral kingdom. The variations in color, color intensity, luster, and in texture, often found within one mineral specimen, constitute a real challenge to the color photographer.

Recently, I had a unique opportunity to photograph the minerals in the Harvard University collection, many of which are the finest specimens in the world. I am very grateful to Professor Clifford Frondel, Curator of the Mineralogical Museum, and to Professor Cornelius S. Hurlburt, Jr., Chairman of the Department of Mineralogy, for permission to photograph the specimens which appear in this article.

I do not want to convey the impression that only rare and expensive specimens yield satisfying mineral photographs. Quite the contrary, excellent color pictures can be made of rather ordinary specimens of common minerals. There is hardly a region in the United States without a nearby mineral locality. An afternoon of collecting should produce many good color subjects. Your local mineral club will be happy to direct you to mineral deposits in your vicinity.


Leica Reflex Housing, and 135mm Hektor in Short Mount
Flood
Spot
Colored Background Card
Focomat Base-board and Column
Low Table
Flood
Colored Background Card
Flood
Spot

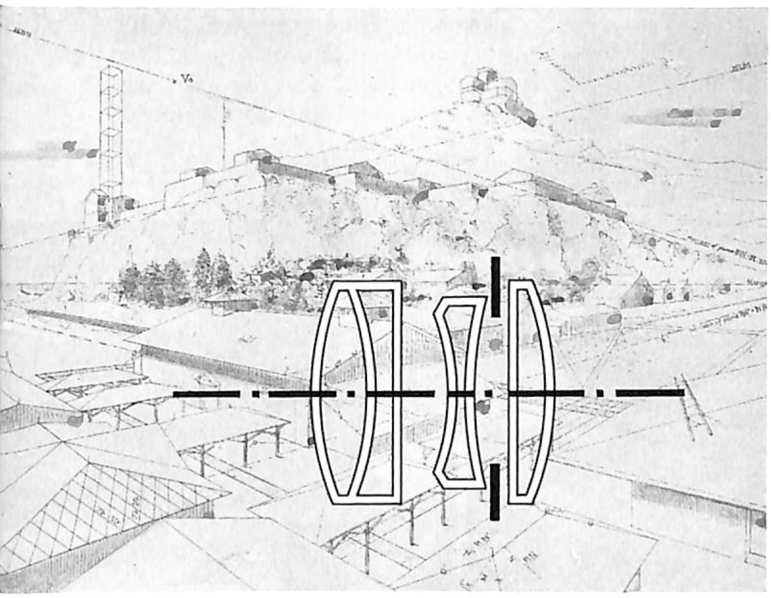
LIGHTING ARRANGEMENT

The technique of photographing large specimens is less stringent than that required for small specimens. Exposure and focusing are less critical and accessory close-up equipment is not often required. However, if you do own copying equipment, by all means photograph the minute, and almost unbelievably delicate crystals, commonly found in small vein cavities. If the lens-to-subject distance is less than eight times the focal length of the lens you will have to increase the exposure to compensate for decreased effective aperture. I have found the Exposure Factor table, published in the June, 1951 LEICA PHOTOGRAPHY, to be accurate and much more convenient to use than other exposure compensation techniques. It works equally well for lenses of different focal lengths.

The equipment which I have found most satisfactory consists of a Leica IIIf, a Mirror Reflex Housing, and a 135mm. Hektor lens in short mount. I prefer the 135mm. lens because it lessens foreshortening in close-up work, and because it permits more convenient camera-to-subject working distances. The reflex housing is valuable in that it allows you to focus directly when using extension tubes. This, of course, applies to 35mm., 50mm., and 90mm. lenses as well. Between the reflex housing and the 135mm. lens, I use extension tubes of 15mm. to 300mm. in length, producing a maximum image size slightly larger than actual size. These tubes, when used in conjunction with shorter lenses, will, of course, produce even greater image sizes.

Continued on page 44

THE PRACTICAL USE OF LENSES AND PERSPECTIVE



PART (II)

by Joseph Foldes, New York, N. Y.

Now to our second important subject: PERSPECTIVE. The scenes and objects we see around us are all three-dimensional: they have height, width, and depth. The photographic print has but two dimensions: height and width. Logically, it follows that scenes and objects presented on photographs must be two-dimensional; they will have height and width, but no depth. But when we look at a photograph we have an *illusion* of depth. The objects on the picture *seem* to be three-dimensional. The phenomenon creating this three-dimensional illusion, in a two-dimensional plane of a picture, is called perspective.

You will make more effective pictures if you can achieve this three-dimensional effect in your photographs; if you can produce images with good perspective. In photography we have six major means of creating a better illusion of space. While each of the six can serve this purpose alone, usually a *combination* of two, or more, is used to give the best results:

1. *Converging Parallels:* If lines, known to be parallel in reality, appear to be converging in your picture, they will give the feeling of depth and distance. We are all familiar with scenes where railroad-tracks, fences, poles, etc., recede to a common vanishing point in the distance, giving the picture an effect of great depth.

2. *Diminishing Size:* An effect of space and distance will result when objects which we know to be approximately the same size (cars, people, etc.) appear on our picture in diminishing sizes.

3. *Lighting:* One of the controlling factors in perspective is lighting. Flat lighting (light originating from camera or behind-the-camera position) tends to destroy the feeling of depth in the original scene and in the photograph. Sidelighting, or back lighting, produce highlights and shadows, emphasizing form and giving depth.

4. *Scale by Comparison:* When you know the size of a subject which appears in your photograph (people, cars, etc.) you will use its apparent size in the picture to judge its distance. If it appears to be small you know that it is far away, which in turn will lend distance and depth to the image.

5. *Atmosphere:* When you view a scene you notice that changes in tone values frequently appear in the distance. Objects are lighter and less contrasty in tone at increasing distances from the observer, usually as a result of haze and/or smoke. Darkness, which suggests nearness, and light, which suggests distance, together create the illusion of depth and space.

6. *Limited Depth of Field:* An illusion of depth can be created in a photograph by letting the background go out of focus. An unsharp background appears to recede, and will push the sharp part of the picture forward.

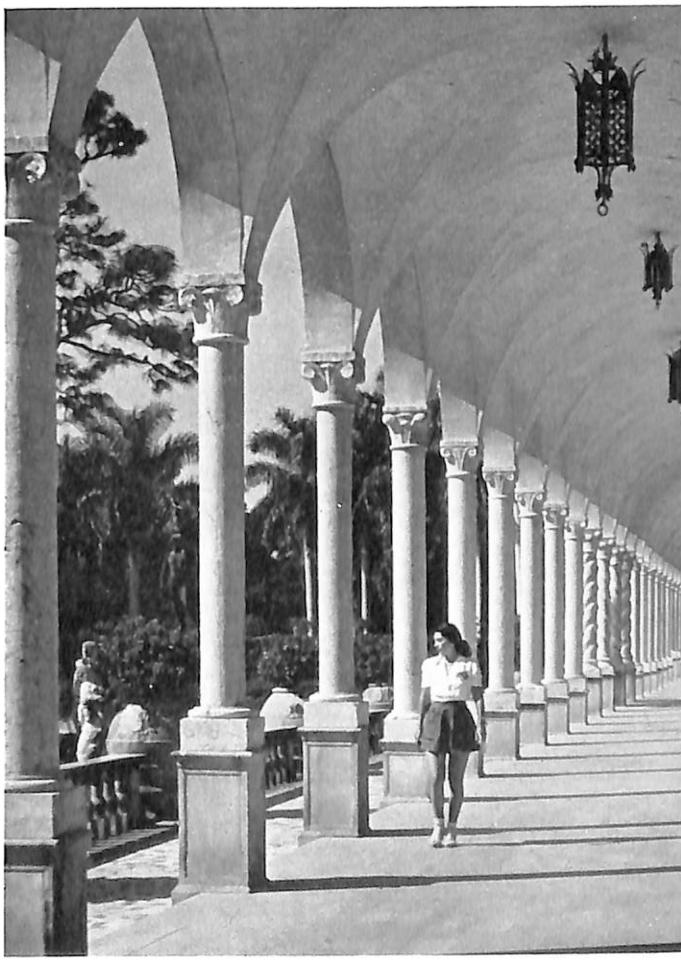


Figure 1: Whenever a subject with receding parallel lines is photographed the picture will have good depth because the camera converts the receding parallels into converging lines.

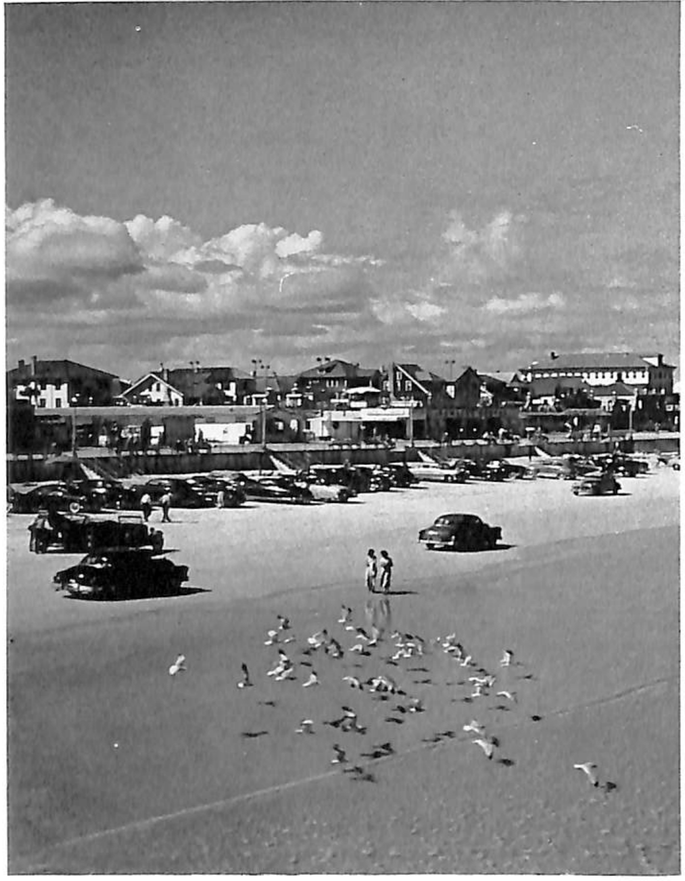
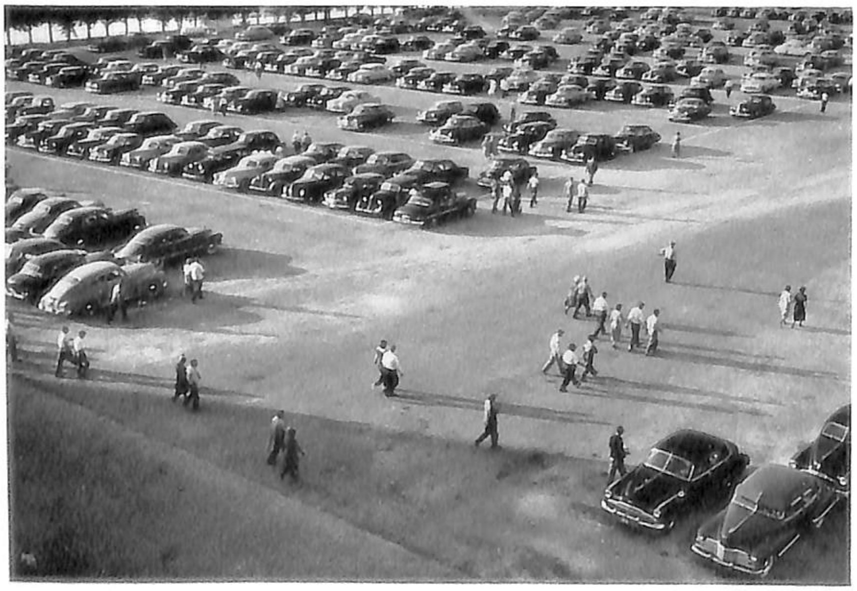


Figure 2 (Above): The tiny, human figures, the cars, the flying birds, and the buildings in the background of this picture give us the impression of distance and depth. This effect results from judging scale by comparison of elements, one against the other.

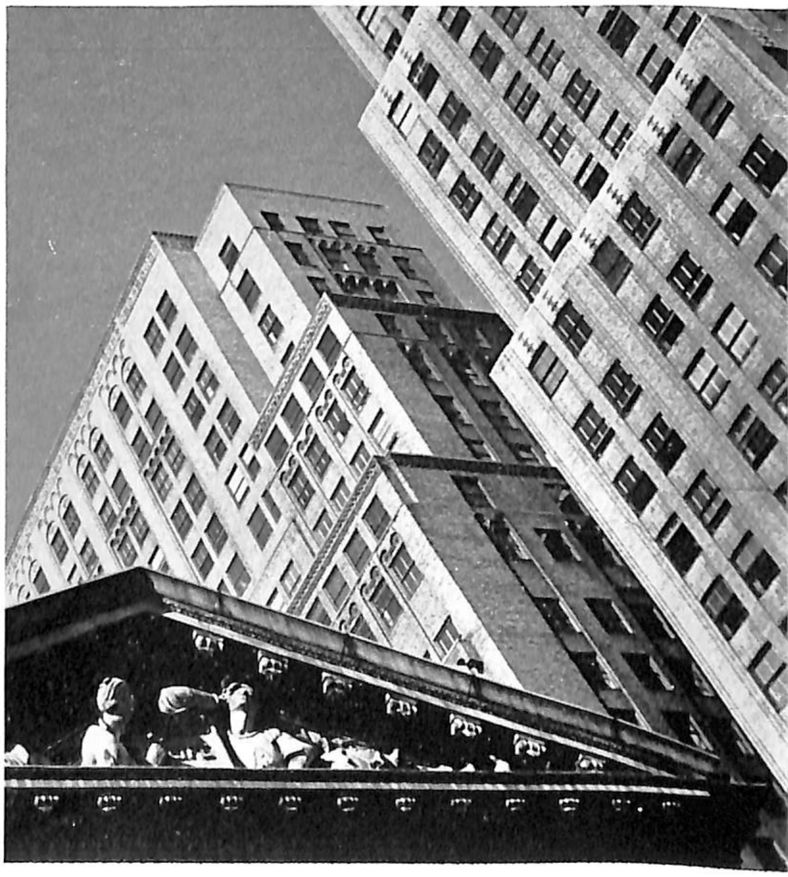
Figure 3 (Right): Because the camera was tilted, the resulting photograph appears distorted and unrealistic. The unusual quality produces a startling effect. Even an entirely "crazy" perspective may result in an interesting photograph.

Figure 4 (Below): Most cars are approximately the same size. If we see them diminish in size, as in this picture, we get the impression of increasing distance and depth. The same is true when any familiar object is pictured in diminishing scale.



To get realistic perspective, to produce an image similar to what the eyes see, it is necessary that the camera be level. A camera tilted in any direction will produce unrealistic, sometimes entirely "crazy" perspective, an image different from what the eyes see.

The question is: Is realistic perspective necessary? Should your photograph be similar to what the eyes see? There is no single answer to these questions. It is entirely up to you as a creative photographer to decide for yourself what you want your picture to look like. We have told you how to get depth in your pictures, if that is what you desire, but we can't (and wouldn't) tell you that your photographs should always have a realistic perspective.



The lifelike effect of every photograph you make is greatly influenced by the position from which an observer views the picture. This is a little known fact, and even those who know it neglect it most of the time. Pictures should never be viewed at an angle. If for some reason pictures are placed high or low they should be tilted forward or backward so that the eyes of the viewer will meet them at right angles.

To get the best three-dimensional effect, a contact print should be viewed from a distance equal to the focal length of the lens with which the picture was taken. For instance, if you use a 90mm. lens for a picture, you should view the contact print from a distance of 90mm., or approximately 3½ inches. Contact prints of Leica negatives, however, usually taken with lenses

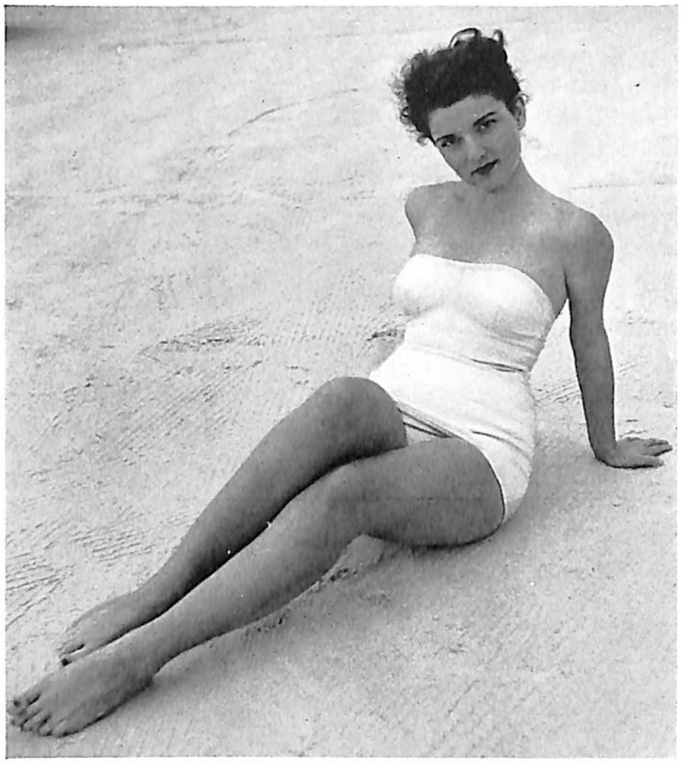
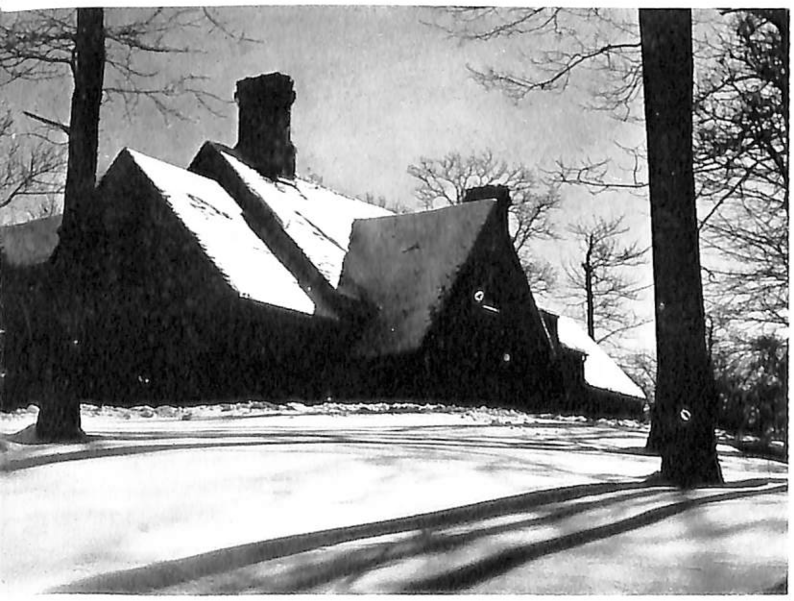


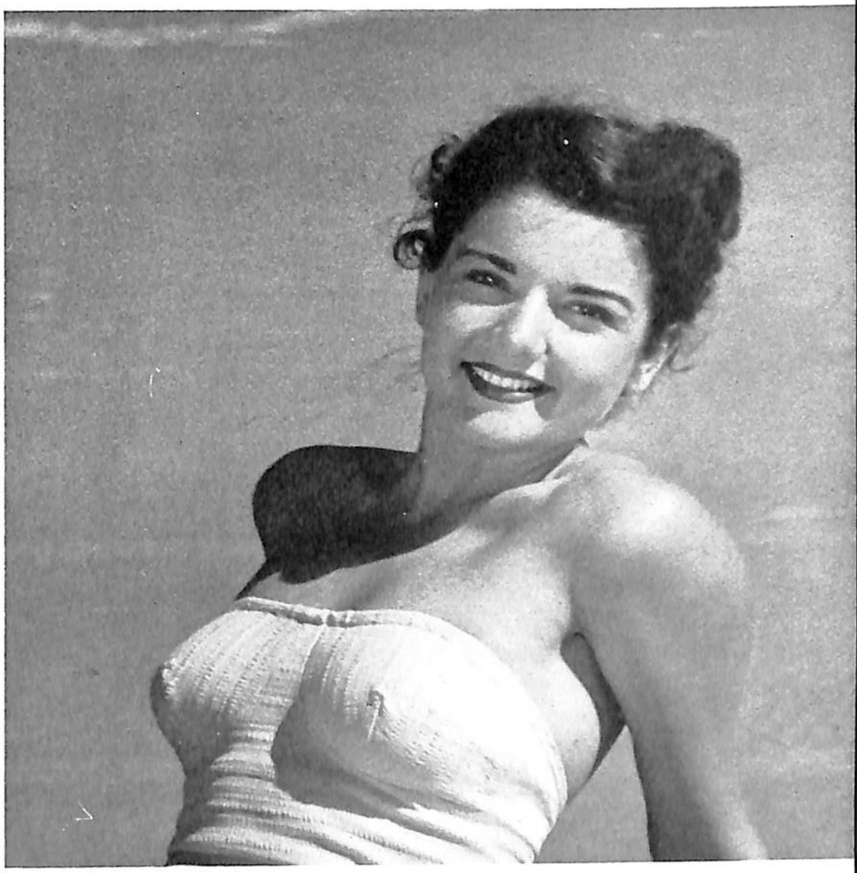
Figure 5 (Above): The lack of side lighting destroys the three-dimensional effect of this photograph. The dull flatness of its tonal value and lack of definition of form tend to make the figure sink into the background.

Figure 6 (Right): Side lighting always brings out form and lends the picture a three dimensional quality. The same girl and place as Figure 5 properly lighted from the side, sparkles with life and form. The figure of the girl is emphasized by the figure—background contrast.

Figure 7 (Below): Back lighting also adds depth and drama to your photographs. The contrast and extreme silhouette effectively set the mood of snowy evening. The tree shadows heighten the effect of distance and space.



of short focal length, cannot be conveniently viewed from the required short distance. Therefore, small contact prints always show distorted perspective when viewed from the regular reading distance. This can be corrected with the use of a magnifying glass which will enable the viewer to hold the contact print at a distance approximating the focal length of the camera lens. It is for this reason that small contact prints (or color transparencies) appear to have better perspective, better three-dimensional quality through a magnifying glass or viewer.



The correct viewing distance for any enlargement is the focal length of the camera lens multiplied by the diameters of enlargement. Therefore, it is necessary to measure how many times (diameters) a negative (or any part of it) has been enlarged, and then to multiply that by the focal length of the *camera* lens to get the correct viewing distance. This is true for prints as well as projected color transparencies. The same measuring unit must always be used. The focal length of most Leica lenses is marked in centimeters, therefore, the viewing distance is also given in centimeters. The result can be converted if desired: 2.54 centimeters = 25.4 millimeters = 1 inch.

For example: a 2.5 centimeter (about 1″) long portion of a negative taken with the 5 cm. lens is blown up to 8 x 10″. This means a 10 diameter enlargement (10″ = 25.4 centimeters which is roughly ten times as large as the 2.5 centimeter portion of the negative from

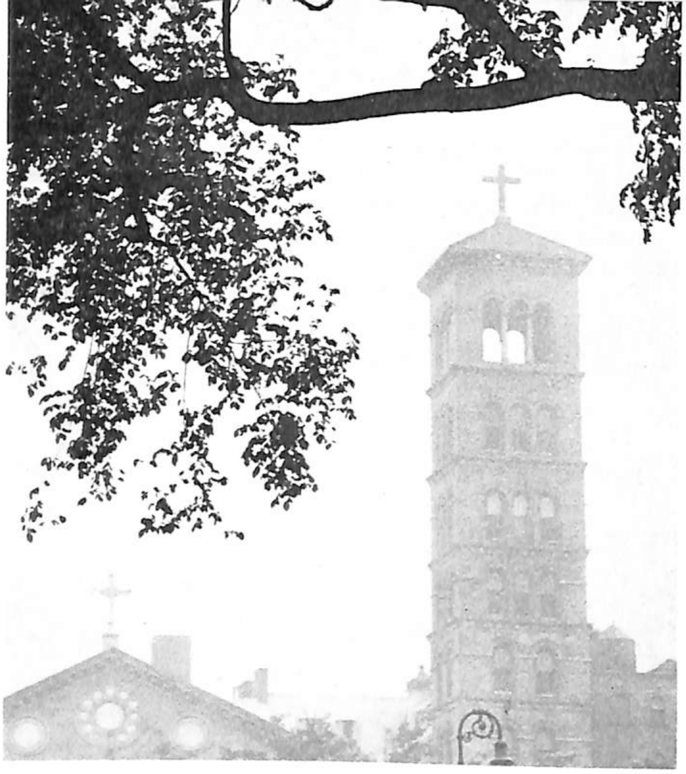
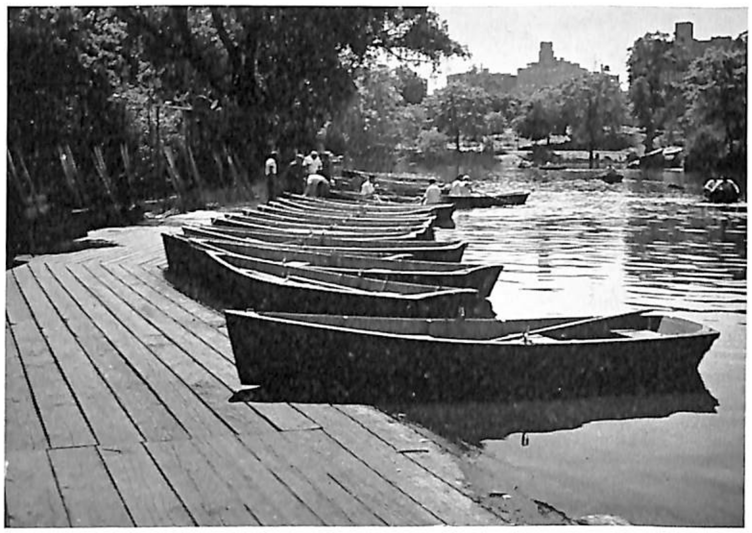


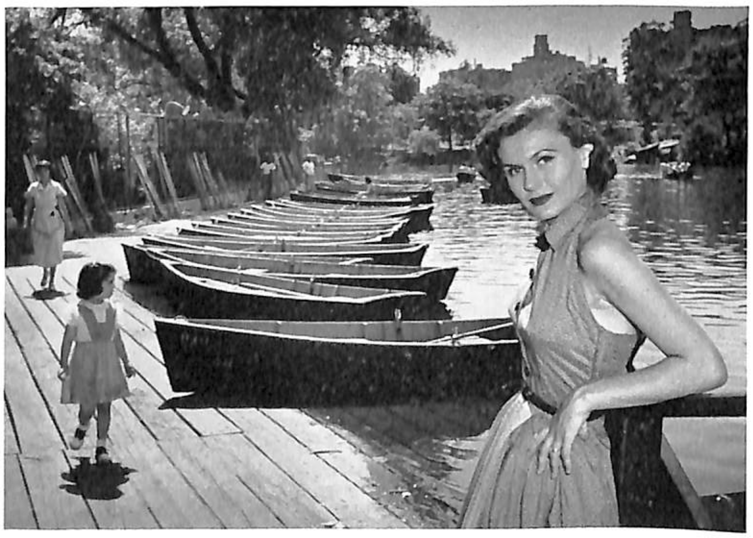
Figure 8 (Left): *You do not need to photograph very distant objects to utilize aerial perspective. In foggy weather even comparatively near objects become indistinct and light in tone. The dark silhouette of the tree in the foreground emphasizes the distance.*

which it was made). Thus 5 (focal length of camera lens) x 10 (times enlargement) = 50 centimeters. The correct viewing distance for that print will be 50 centimeters, or approximately 20 inches.

The correct viewing distance is so important in helping the viewer see the proper perspective (to see the subject as it was seen from camera position) that actually all photographic prints should bear such a remark as: "To be viewed from such-and-such a distance."

Pictures taken with wide angle, or telephoto lenses, usually cannot be conveniently viewed from the distance computed by formula. As a result, the viewer will see an exaggerated perspective which is not objectionable, but the picture *will* be recognizable as one taken with a wide angle or a telephoto lens.





Figures 9 and 10 (Above): When you discover a scene which would make a good picture except that it is somewhat lifeless and flat, do not abandon it or take it the way it is. You can easily introduce life and depth into the picture by applying some of the principles described in the text. We found the place shown in Figure 9 rather photogenic, but not quite satisfactory the way it was. So we asked someone to pose in the foreground and then waited until people leaving the boats came into sight. The three-dimensional effect is much improved in Figure 10 by both diminishing size and scale by comparison.

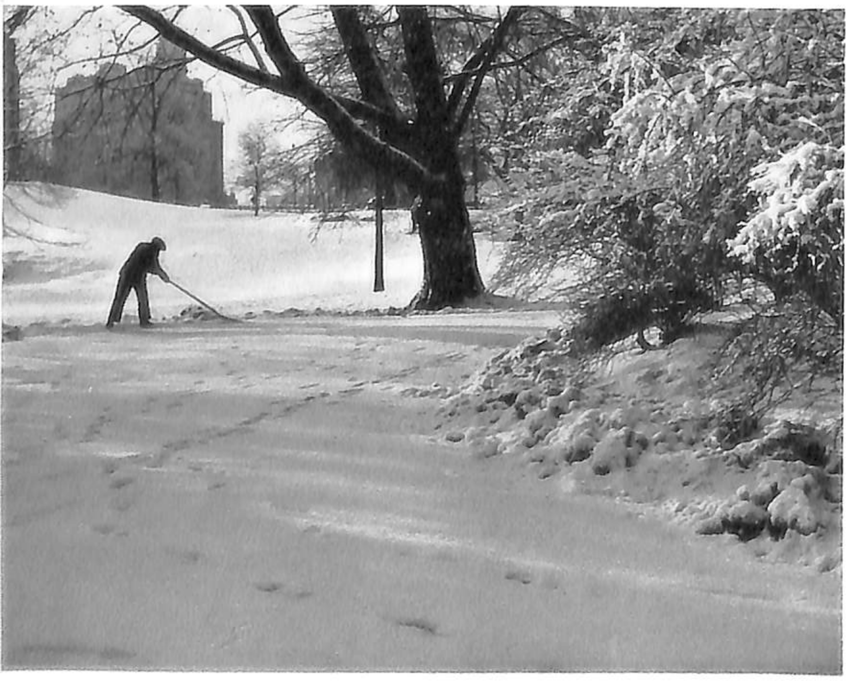
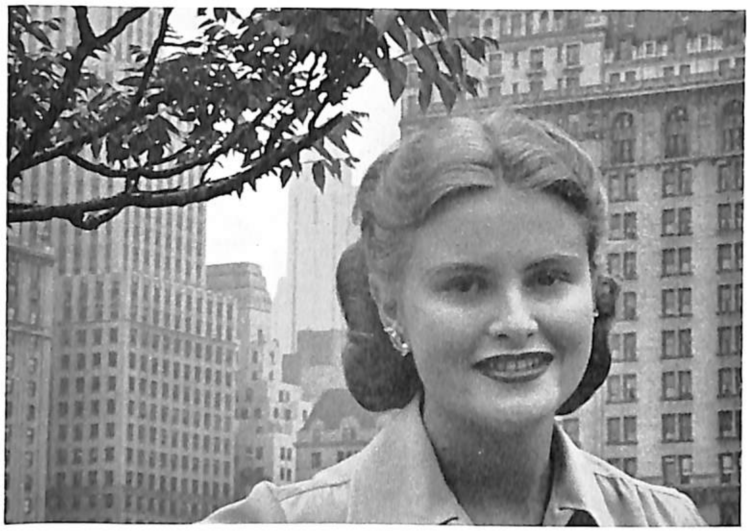
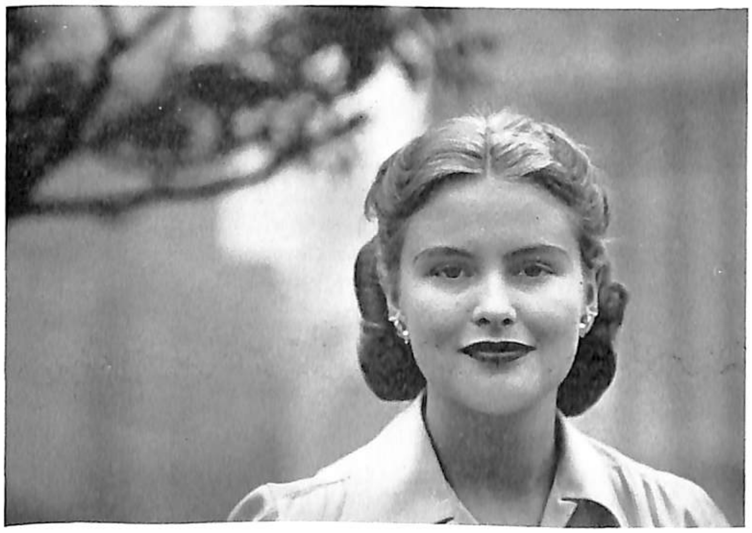


Figure 11 (Left): You can prove it to yourself with this picture that scale by comparison really lends depth to a photograph. Cover the human figure with your finger and see how the picture flattens out. Take your finger away and depth will reappear.

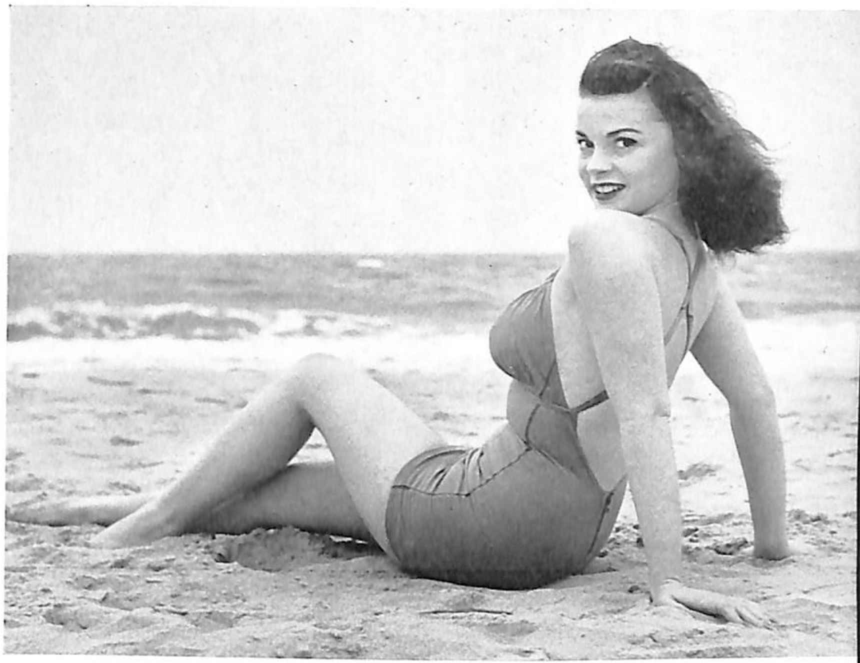
Figure 12 (Right): Another method to gain the effect of depth is to let the background run out of focus gradually, as on this picture. A sharp, dark foreground and hazy background simulate atmospheric distance, as shown by this photograph.





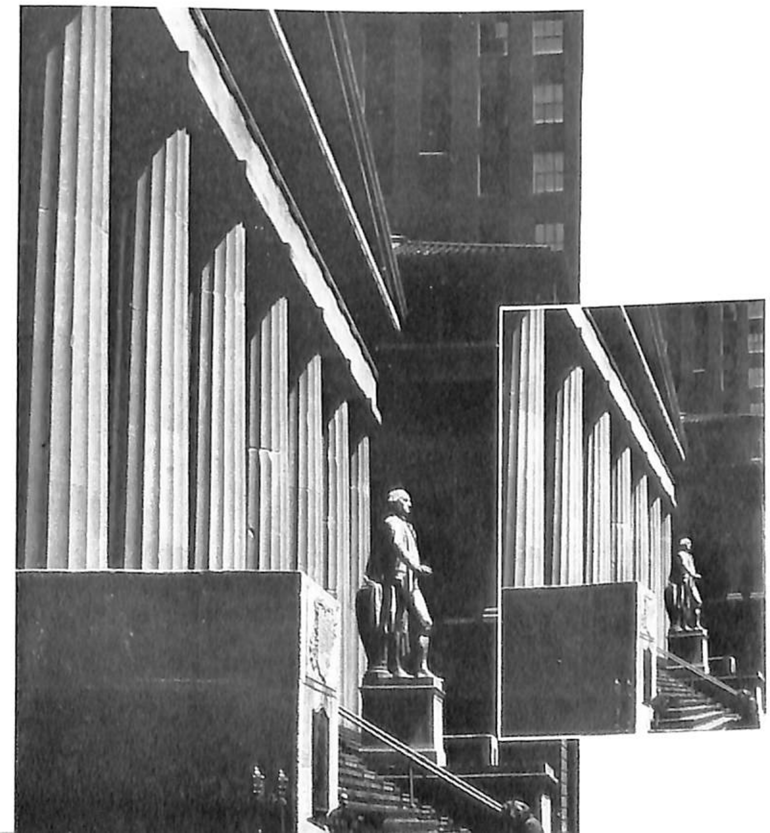
Figures 13 and 14 (Above): Stopping the lens all the way down brought the background in Figure 13 into focus. Here the girl is virtually pasted onto the background; the effect of depth is destroyed by the overall sharpness of the photograph. Figure 14 illustrates that a limited depth of field can also result in an effect of depth. The girl is apparently close to the viewer and the out-of-focus background far away. The lens diaphragm was wide open for this shot. You can get any effect of depth between these two extremes by using in between lens stops.

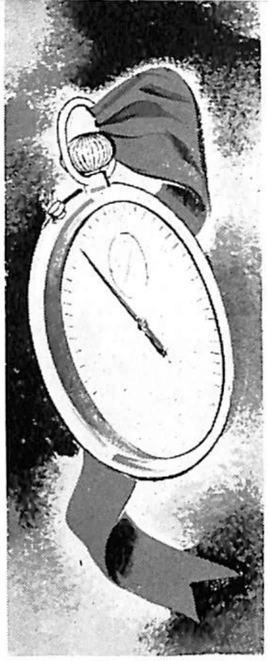
Figures 15 and 16 (Right): The distance from which you view a photograph is important. The perspective of the small image in Figure 15 appears to be exaggerated when it is viewed from average reading distance (about 14 inches). Perspective becomes life-like when the larger image is viewed from the same distance.



By now you should have a pretty clear idea of the importance of having a complete series of Leica lenses for your Leica, and of the meaning and use of perspective in photography. Of course, there is much more to it than could be included in this short discussion. We believe, however, that we gave you sufficient *practical* information to enable you to make better use of your Leica lenses, and to make perspective a working part of your picture-taking activity.

Just reading this article will not improve your work. You must study both the explanations and illustrations, and put into immediate practice what you have learned. If you do so you will take better pictures almost immediately and will keep on improving with experience. ◆





TWO SECONDS OF BASKETBALL

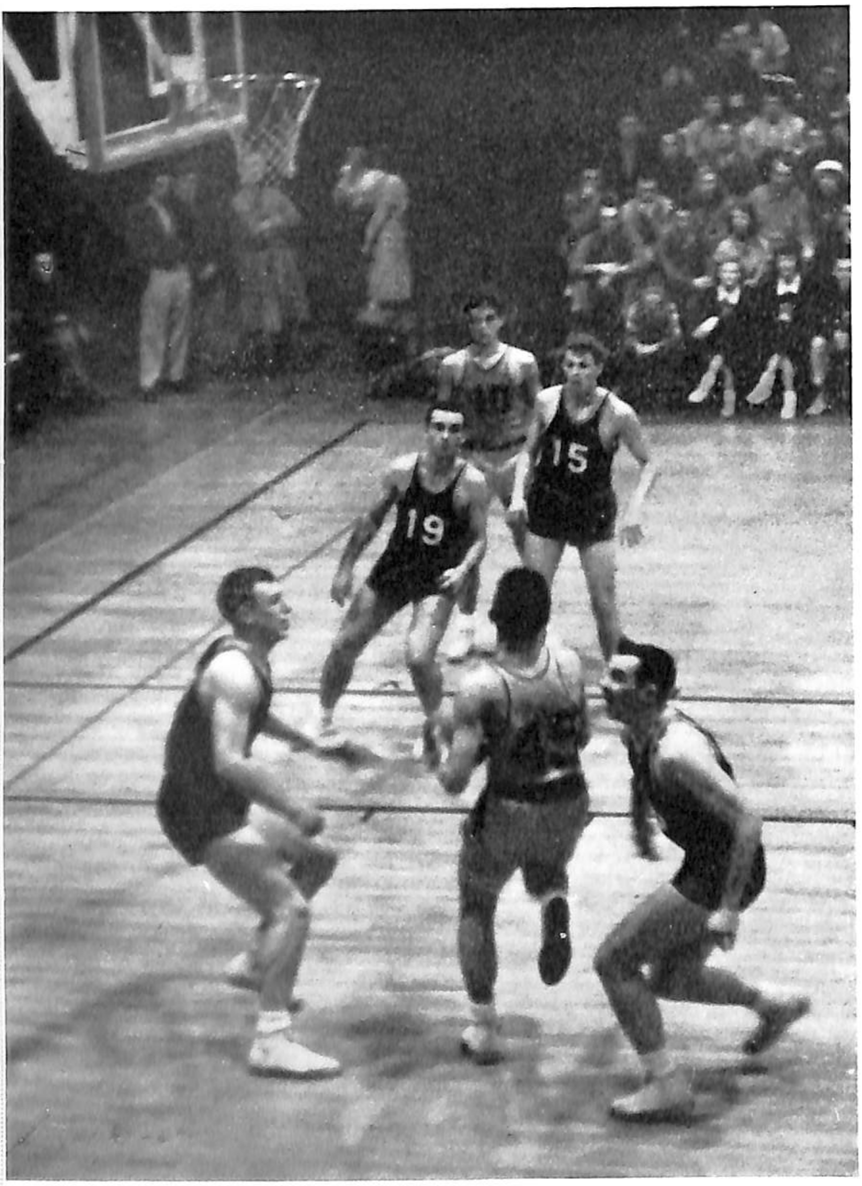
Photographed for the AKRON BEACON JOURNAL

by Julius Greenfield

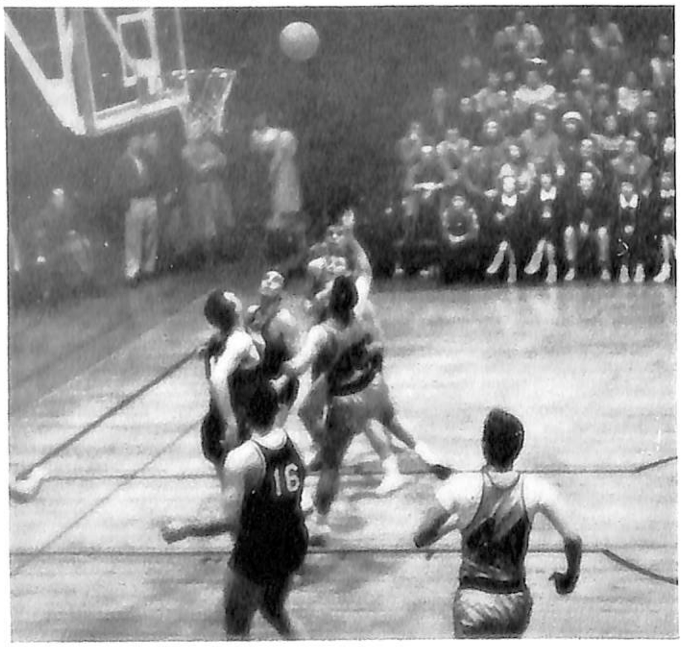
Akron, Ohio

This is an excursion into photographic impossibility. For years photographers have wished for a way to translate the rapid action of a basketball game into good, clear sequence pictures.

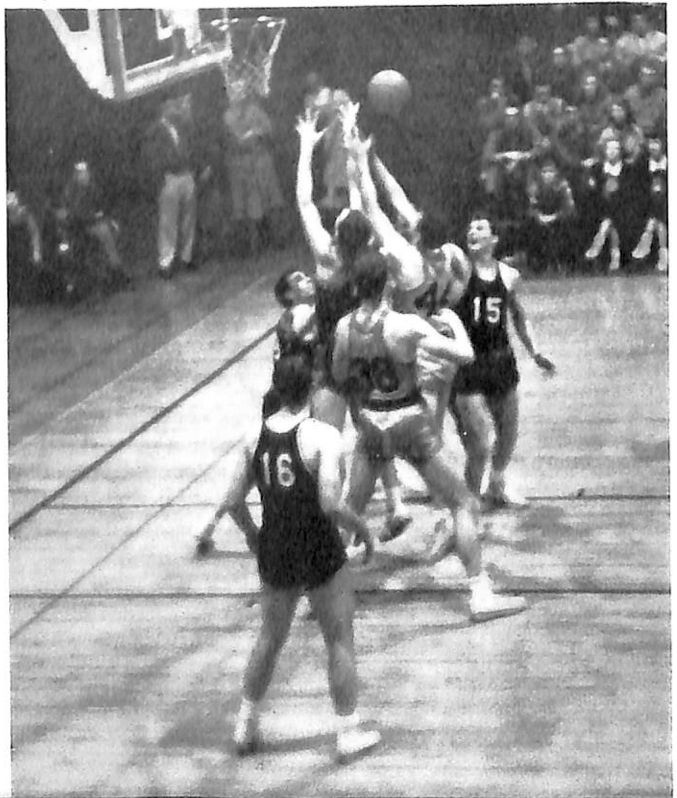
With the motion picture camera it has long been easy. But the finished product is clear and sharp only when seen in motion. Because a movie camera's shutter is slow, stills from a movie sequence of rapid action are blurred and indistinct—even though the viewer doesn't see it when the film is running.



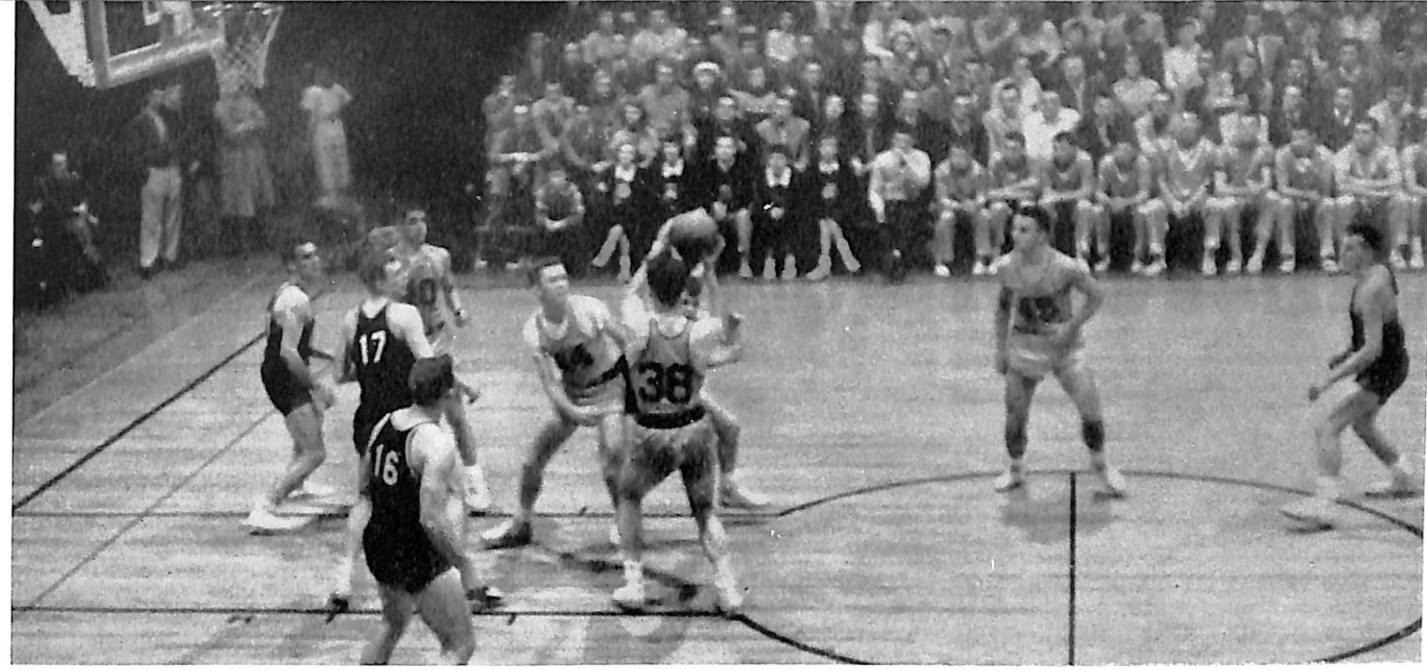
Bob Horvath (45) swings in for a shot at the basket.



His shot is high and bounces from the backboard.



Everybody clutches for the rebounding ball.



Mel Kiser (38) is the lucky winner in the mix-up.

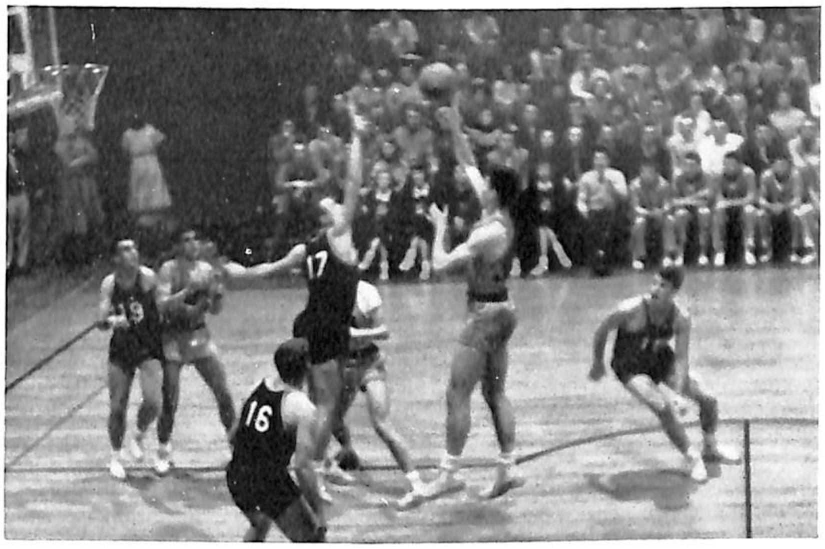
For good still shots much faster exposures were necessary—but ordinarily light conditions on basketball floors are so poor photographically that no usable picture can be made with an exposure short enough to stop action.

Then came a technique that made the impossible only improbable—a developer and developing method increasing film speed almost nine times.

To see what could be done with it, Beacon Journal Photographer Julius Greenfield tried shooting some action sequences at a recent Akron U-Muskingum game.

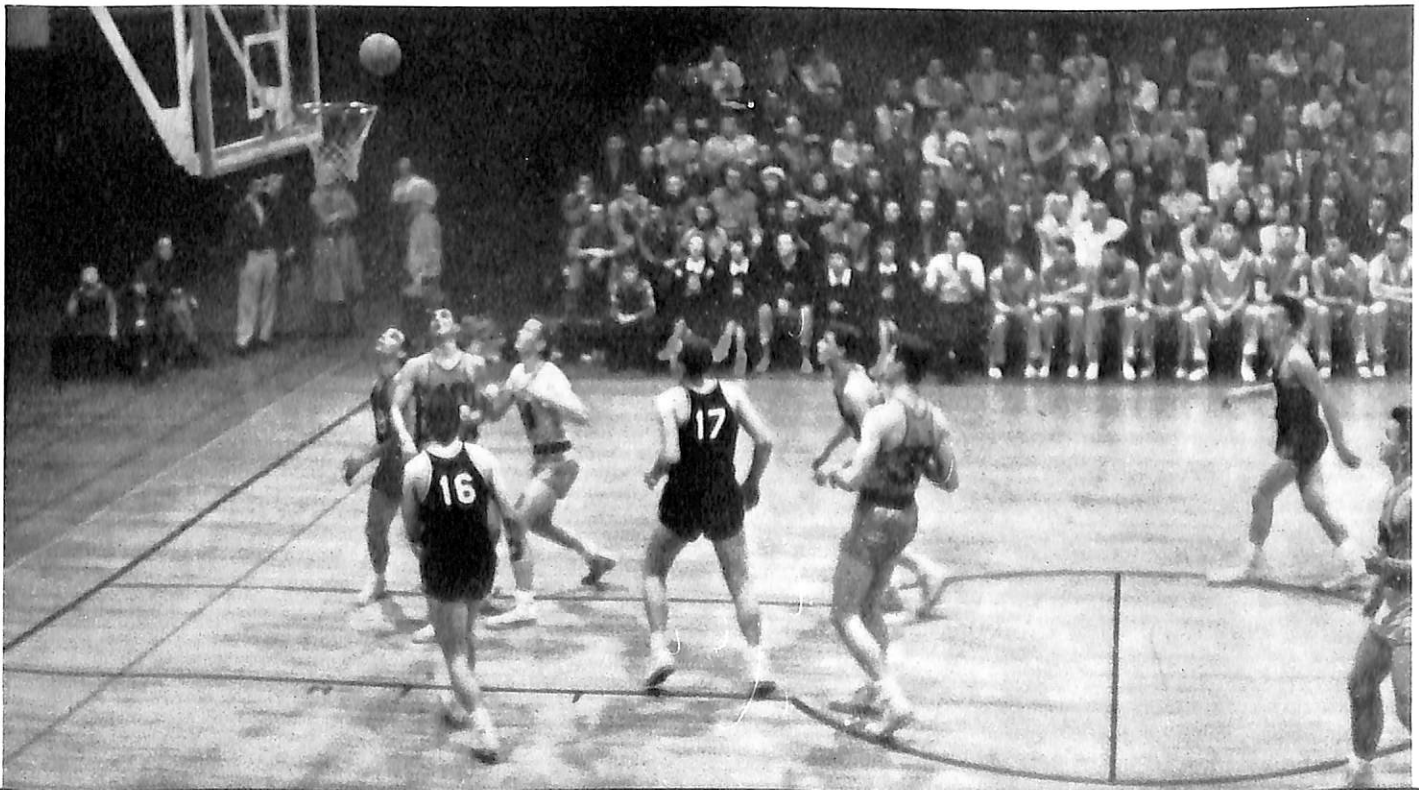
He used a Leica, with Summitar set at f/2, with a shutter speed of 1/200 of a second, and a Leicavit Rapid Winder for rapid-fire shooting.

Here's one of the action sequences that "couldn't be made." ◆



Jerry Carlson (17) almost manages to block the shot.

Yes, this one went through. Whole time for the action: Just over two seconds.



HOW THE Leitz Agfa RONDINAX WORKS

The Leitz-Agfa Rondinax Daylight developing tank is precision-made for ease of operation and top-quality results. It is designed for use with 35mm film in most types of film cassettes.

Professional results can be obtained by following these simple instructions.

1. Make up 200cc (7 fluid oz.) each of developing bath and fixer. Then bring both solutions, and the tank itself, to 64-68°F. (18-20°C.)

2. Open the tank by removing the lid. Hang the film loading belt over the top edge of the tank out of the way.

3. Cut off the tongue of the film and pull out about ¾″ (2cm) of film from the cartridge.

4. Load the film cartridge into the tank.

5. Open the film clip on the end of the loading belt and place it in the recess at the top of the partition inside the tank. Place the end of the film between the jaws of the clip and close the latter, making certain that the metal teeth perforate the film.

6. By turning the winding knob of the spiral drum, pull about 2 inches (5cm) of film from the cartridge into the film guide. The corners of the leading edge of the film should be bent under. The lid is now replaced to close the tank.

7. By turning the winding knob of the spiral drum, draw off the film and wind it on the drum. Then use the film knife to cut off the film so that the drum is free to revolve.

8. Carefully pour the developing solution into the hole provided in the tank top and, simultaneously, turn the winding knob of the drum with a quick motion about half a turn every two seconds. Continue turning the drum in this manner until the time of development has elapsed.

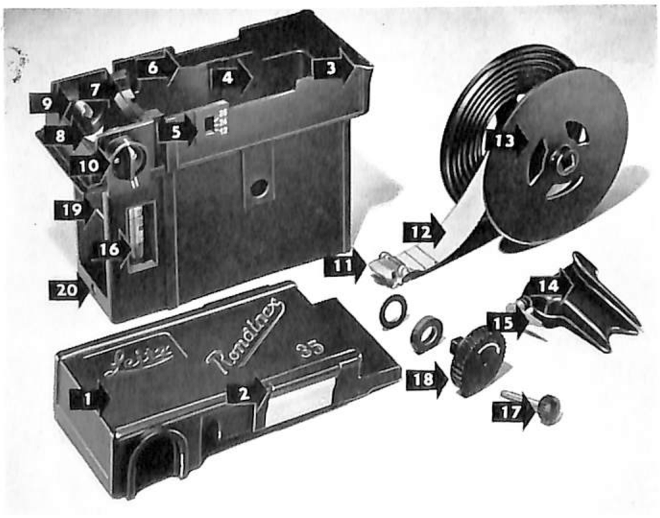
9. Pour out the developer, still turning the winding knob, and then rinse for about one minute in clear water.

10. Fix the film by pouring in the rapid fixing solution. Turn the winding knob as before for ten minutes.

11. When fixing is complete, remove the film from the tank and wash it thoroughly for 20 to 30 minutes. Hang up the washed film to dry.

12. Disassemble the tank and wash it thoroughly, taking care that no water gets into either the cartridge chamber or the slots in which the film knife moves. Dry the film guide and tension band carefully, and finally reassemble the tank.

Detailed, illustrated instructions are supplied with each Rondinax Developing Tank (TEEOH, 15,080), $24.00.



BREAK DOWN OF THE RONDINAX

1. Lid
2. Serrated grip
3. Pouring lip of tank
4. Developing chamber
5. Scale indicating length of film on spiral drum
6. Template on tank edge
7. Guiding slot for cutting knife
8. Loading chamber
9. Peg locating cartridge
10. Rotating key holding film cartridge
11. Film clip
12. Tension band
13. Spiral drum
14. Film guide
15. Indicating pointer
16. Thermometer
17. Locking knob
18. Winding knob
19. Cutting lever
20. Adjusting screw

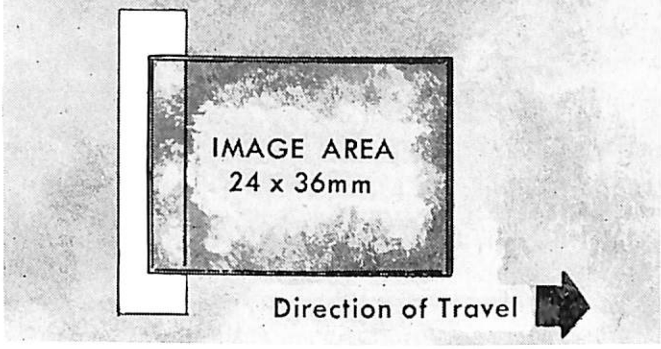


Fig. 1. Principle of Focal Plane Shutter.

This article first appeared in the original German in "LEICA FOTOGRAFIE"

The increasing use of flash has once again revived the discussion on the differences, and rival merits, of focal plane shutters compared with the between-lens variety. Let us therefore take this opportunity to review the principles of our own focal plane shutter, and recall to mind a few useful rules which may be applied to the photography of moving objects. Armed with these basic facts we shall then be better able to proceed to the consideration of the flash synchronization of focal plane shutters.

INTER-LENS AND FOCAL PLANE SHUTTERS

Why is a speck of dirt on the lens not recorded on the film? Because it merely reduces the effective opening of the lens diaphragm. By stopping down the lens we reduce the intensity of light evenly over the whole image area, and not merely at the edges of the frame.

A between-lens shutter is really only an iris diaphragm which is opened for a brief interval. The entire image area is illuminated with increasing intensity as the shutter opens to its maximum and with decreasing intensity as it closes again. The negative is, therefore, exposed to the effect of light during the time the shutter is open.

A speck of dust on the surface of the emulsion does (unfortunately) leave a mark on the film. Similarly, if the film plane were shielded by a blind, or screen, placed very close to it, and in this blind there were a small hole, only that part of the film opposite the hole would be exposed to light.

If the blind is moved across the film plane, the traveling hole would leave an exposure path. Each point along this path would receive an exposure corresponding to the time taken by the hole to traverse a distance equal to its own diameter, or width. Accordingly, the faster the blind travels the shorter will be the exposure time of any one point along the path of the hole: but if the width of the opening is increased along the path of its travel then the exposure received by any one point along that path will be greater.

$$\text{Exposure time} = \frac{\text{Width of Slit}}{\text{Velocity}}$$

This is the principle of the focal plane shutter. Since the whole image area is to be exposed, and not merely a line or strip along it, we substitute a "slit" for the "hole". In the case of the Leica, this vertical slit moves horizontally across the image plane and along the broad edges of the negative.

THE LEICA FOCAL PLANE SHUTTER

by H. Frenk, Wetzlar, Germany

Arrangement of the Blinds in the Leica

The width of the slit in the Leica is adjustable to permit a choice of different shutter speeds.

Instead of only one blind there are two, and the slit is formed between them by the edges nearest each other.

In the closed position these blind edges overlap by a few millimetres. When the shutter is wound (Fig. 2) Blind II, and the conveyor bands of Blind I, are transported to the left. Blind I then covers the image area and both springs in the rollers, shown on the right of the diagram, are wound to full tension.

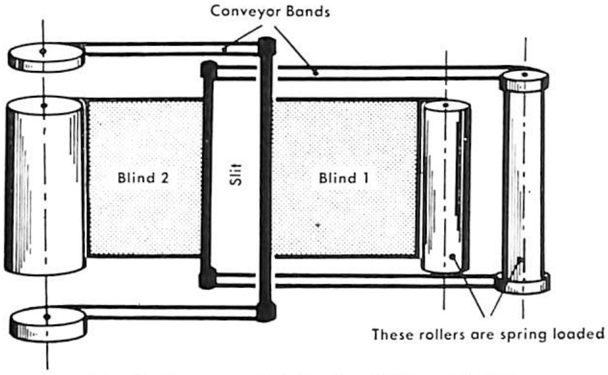


Fig. 2. Diagram of Leica Focal Plane Shutter.

The action of releasing the shutter first relaxes the spring in the left one of these rollers, which is responsible for transporting Blind I to the right across the film plane, thus permitting the exposure. (Note that "left" and "right" in relation to the image are used here in the sense that its field is viewed through the O-ring [lens flange] into which the lens normally screws.)

When Blind I has traveled a certain distance across the film—this distance is determined by the speed setting on the speed dial of the camera which is situated immediately above the fat roller shown on the extreme left of the diagram—the spring operating Blind II is released, and in transporting it to the right again covers up the film exposed during the travel of Blind I. Between the trailing edge of Blind I and the leading edge of Blind II it will be observed, therefore, that a slit travels from left to right across the film plane.

How do we arrange for each point on the surface of the film to receive an identical exposure? Let us examine this question with the help of a few simple graphs.

Characteristic Curve of Falling Stones

We know that we may step off a chair but not off the top of a high tower because the acceleration of a falling body increases with the length of its fall. Why should it so increase? Because to *maintain* velocity inertia suffices, but the gravitational force exerted by

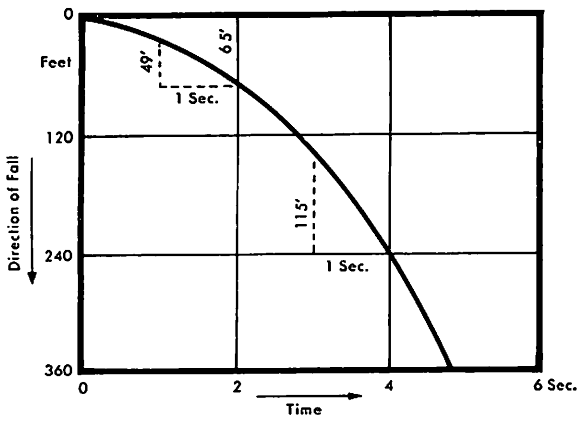


Fig. 3.

the earth on a falling body increases this velocity from moment to moment (if we ignore air resistance).

Let us now plot a curve depicting the fall of a stone into a shaft (Fig. 3).

From this curve it is apparent that the distance traveled in 1 second is 16 feet, in 3 seconds 148 feet, in 5 seconds 410 feet, or that the distance traveled in the 2nd second is 49 feet, in the 4th second 115 feet, and so on. The slope of the curve indicates the changing acceleration. To continue the example let us now consider a second stone (Fig. 4) which falls under the identical conditions as the first but 1½ seconds later.

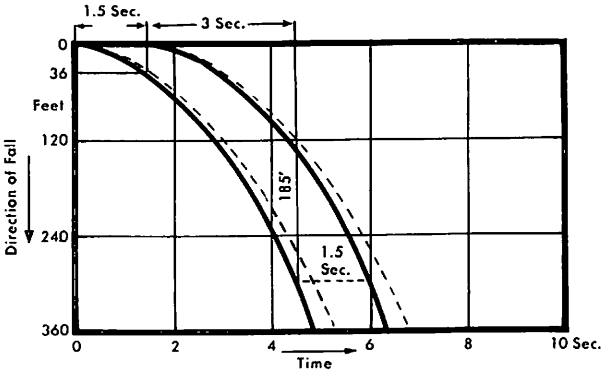


Fig. 4.

For this stone we plot a second curve which will be similar to the first but each point on it is displaced 1½ seconds toward the right.

It will be observed that the distance between the stones at the starting point is 36 feet and after 3 seconds it is 185 feet and goes on increasing with the acceleration. But at any given point during the fall a sheet of paper in the path of the stones would be pierced by both at an interval of exactly 1½ seconds. In the diagram this is indicated at 300 feet.

Air resistance could also be taken into account, reducing the acceleration (broken curves). Given the condition that the resistance is the same in each case the curves remain parallel but separated by an interval of 1½ seconds.

The Curves for a Focal Plane Shutter

We have seen that the blinds were drawn across the film plane by the tension of their springs. This force is exerted during the duration of their travel. Therefore, as in the case of the falling stones, we must also expect acceleration. The velocity of the blinds increases during their travel. But the tension of the springs is decreasing so that acceleration is not constant, as in the case of gravity, but it is nevertheless there. The curves depicting the travel of the blinds must therefore be similar in principle to those we have seen in the previous diagrams. But in this case our time intervals are measured not in seconds but rather in milliseconds (1 msec. = 1/1000 sec.) and the distance traversed not in feet but in millimeters. To provide variety, the curves in Fig. 5 are shown ascending, rather than descending as in Figs. 3 and 4, but it is nevertheless apparent that the curve for Blind I is very similar to the characteristic curve of a falling stone.

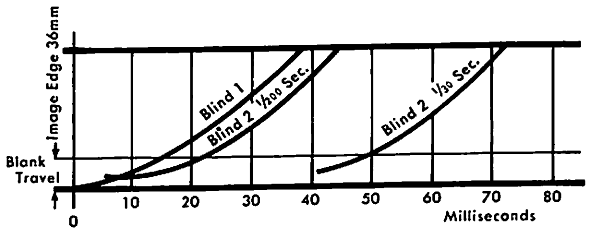


Fig. 5. Curves showing shutter travel.

Our consideration of Fig. 4 gives us the key to the manner in which Blind II must travel in order that each point of the image may receive an equal exposure. Its edge must start from the same point as that of Blind I, it must receive the same acceleration (by spring tension) and overcome the same resistance (friction).

Given these factors both curves will be identical, but separated by a time interval corresponding exactly to the exposure time desired. But these prerequisites are not fully satisfied in practice because the overlap of the blinds at the start means that their edges have different starting points (see Fig. 5). It therefore follows that Blind II cannot be released after an interval corresponding exactly to the exposure time selected or desired; in their initial stages the curves are not parallel This, however, is only the case during the so-called "blank travel" of the blinds before they reach the left edge of the image. As Fig. 5, which is the result of an actual test, shows, it has proved possible to keep the time interval constant, during the traverse across the whole image field, by adjusting acceleration.

In the Leica camera the traverse of a blind across the image field occurs, for all settings of the speed dial, in an elapsed time of 22-24 milliseconds, as can be seen from Fig. 5. This is somewhat less than 1/40 sec. (= 25 msecs.). The "blank" travel of the blind before it reaches the edges of the image takes a further 15-18 milliseconds. At a speed dial setting of 1/1000 sec. the width of the slit is 1 mm. at the beginning of its traverse and 3 mm. at its end.

The Advantages and Disadvantages of Focal Plane Shutters

It is known that the focal plane shutter has a simple, sturdy construction scarcely subject to operational variation. The large dimensions of high speed lenses would demand ever larger between-lens shutters, which in turn would make it impossible to provide shutter speeds faster than $\frac{1}{100}$ sec. A speed of $\frac{1}{1000}$ sec. today is still only within the reach of a focal plane shutter. If the Leica depended on between-lens shutters then a special shutter would have to be bought with each one of its interchangeable lenses!

These very decisive advantages of the focal plane shutter are coupled with one big disadvantage: any very rapid movement snapped at $\frac{1}{1000}$ sec. is distorted because the movement frozen on the left side of the image field must occur $\frac{1}{40}$ sec., of necessity, prior to the movement frozen on the right hand side of the image field. If the slit is traveling in a direction counter to the direction of the movement, in relation to the image (not object), the object will appear compressed as is clearly seen in Fig. 6. If the slit travels with the movement, again in relation to the image, the object appears elongated.

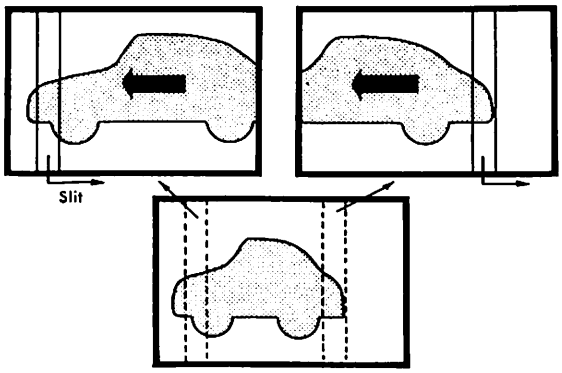


Fig. 6. Distortion effect of shutter moving counter to direction of image movement. (Car speed 300 m.p.h. at distance of 15 feet.)

If we photograph a vertical movement with the camera broadside, or horizontal movement with the camera upright, the slit travels at right angles to the direction of the movement. In this case rectangles are distorted into parallelograms, and circles compressed to ovoid shape. Yet another—but not nearly so important—disadvantage of the focal plane shutter is that it does not move in the *same* plane as the film but very slightly in front of it. At very fast shutter speeds the efficiency of the camera is thereby slightly impaired.

The Technique of Photographing Rapid Movement

Which of the distortions mentioned is the least distracting? At what object speeds is it impossible to take a photograph?

Certain distortions are acceptable in practice because the human eye is accustomed to the phenomenon of foreshortening. The somewhat abbreviated front of a railway carriage, its elliptical wheels, create the impression that it is viewed from behind and to one side—a common experience when it is, in fact, viewed from behind without any distortion. Perspective is compressed. There is, of course, no converse phenomenon: extensions of perspective do not occur in human experience. Inclined distortions are the most disturbing, though these can sometimes be effective in emphasizing the lean-over of riders in a motorcycle race.

There is yet another reason why the shutter should, as far as possible, always move in *counter* to the directional movement of the image. Imagine a situation in which the image moves at the same speed as the shutter. In this case, if the travel of the shutter is against the direction of image movement, the object in the print will appear to be compressed to exactly half its relative length, but the image would be sharp. Conversely, if shutter and image movement are in the same direction, a single point of the object, perhaps the door handle of a car, would then travel constantly with the slit and leave a streak across the film. Nothing else would be seen. If the speed of the object were slower than that of the shutter things would not be quite as bad, but poor definition and distortion are much worse here than when shutter and image movement travel in opposite directions.

It is quite easy to orientate the camera correctly, so that this opposition of movement is always assured, by holding it RIGHT SIDE UP for movement coming from your RIGHT, (i.e., with the view finder uppermost in the normal manner). For movement coming from your *left*, turn the camera *upside down* (finder towards the ground) and make the release with your left thumb.

Now what is the highest speed at which an object may travel and yet be photographed? We know that the *angular* velocity of vision must not rise to too high a figure. Or, in other words, the further we stand from an object the higher its linear velocity may be without impairing sight.

The shutter slit covers 36 mm. in $\frac{1}{40}$ sec., and its distance from the lens is 5 cm. At a camera-to-object distance of 5 meters (16 feet) the average velocity of an image projected to that distance is given by the expression:

$$v = \frac{3.60 \text{ m.}}{\frac{1}{40} \text{ sec.}} = 144 \text{ m.p.s.} = 520 \text{ k.p.h.} = 325 \text{ m.p.h.}$$

A car traveling at this speed, and photographed from a distance of 5 meters with the camera correctly held, would be compressed to half its relative length, but would be perfectly sharp. At lesser speeds, or at greater camera-to-subject distances, this distortion is hardly noticeable, especially if the photograph is made at an oblique angle either from in front of, or behind, the car.

Another method of avoiding distortion in the photography of fast moving objects is to "pan" the camera. To do this, the movement is followed through the finder in such a manner that the object itself is always in the centre of the field of vision. The object itself will then be sharp and undistorted but both fore- and background will be blurred and thereby increase the impression of great speed. This method also allows the use of slower shutter speeds in bad light.

The focal plane shutter is fairly far removed from the theoretic ideal, but then how often is the ideal worth the attainment? This shutter daily proves itself to be a completely satisfactory compromise between the *many* advantages it offers and its *single* disadvantage, which is never noticed if the two rules are followed. ◈

SALON SECTION

Page 1 JUDGE LEARNED HAND
Courtesy of FORTUNE MAGAZINE

Page 2 and 3 IOWA FLOOD VICTIMS

Page 4 NEW YEAR'S EVE

Page 5 BROADWAY POOL ROOM

Page 6 THROUGH TRUCK WINDOW, DECATUR, ILL.
Courtesy of FRUEHAUF Trailers

Page 7 OLD AGE HOME, FT. WAYNE, INDIANA
Courtesy of COLLIER'S Magazine

Page 8 EAST END AVENUE

Dan Weiner

PHOTO CRAFTSMAN

This issue's Salon Section contains some special material by a man considered to be one of today's top photo-journalists. To many editors, magazine readers, and fellow professionals, Leica user Dan Weiner is a master photo craftsman, and his skill as a creative interpretive reporter is widely recognized.

Recently, Weiner exhibited 100 of his best pictures from national magazine assignments and personal files. Typical of the reactions were the following.

"Weiner never reports the accident—man, thing, or event—as such," said Leo Lionni, art director of FORTUNE. "It is always selected, isolated, and recorded as a symbol and reported as a problem, a human problem involving at least two persons—one of whom is you. That is why his photographs are always a moving experience."

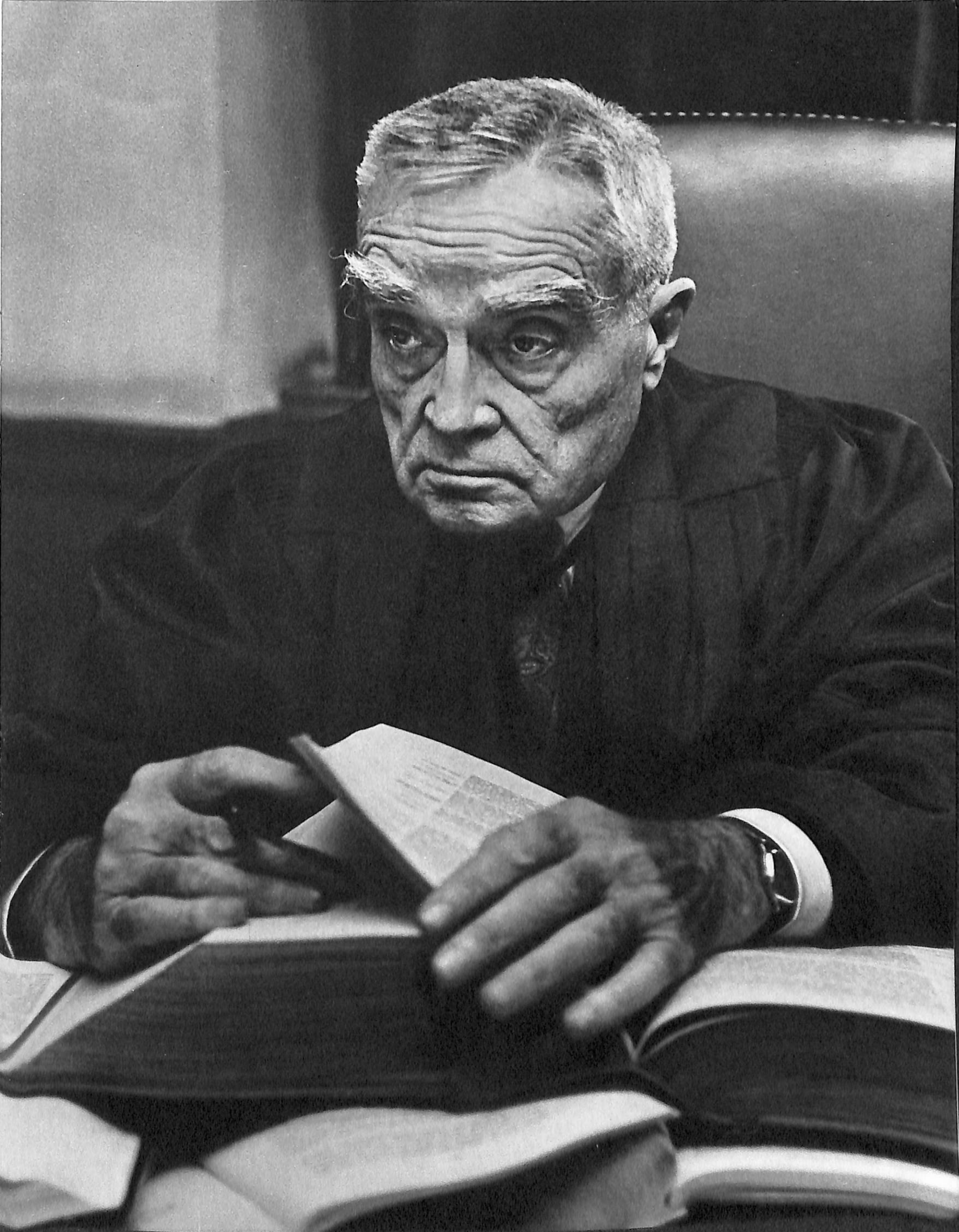
Jacob Deschin, camera editor of THE NEW YORK TIMES said, ". . . the display comprises a series of themes on several phases of human experience seen through the understanding eyes of a photographer whose mastery of his craft matches his concern with the material he photographs. . . . Together the pictures provide a richly varied cross section of this successful photographer's work, an impressive showcase of distinctive achievement."

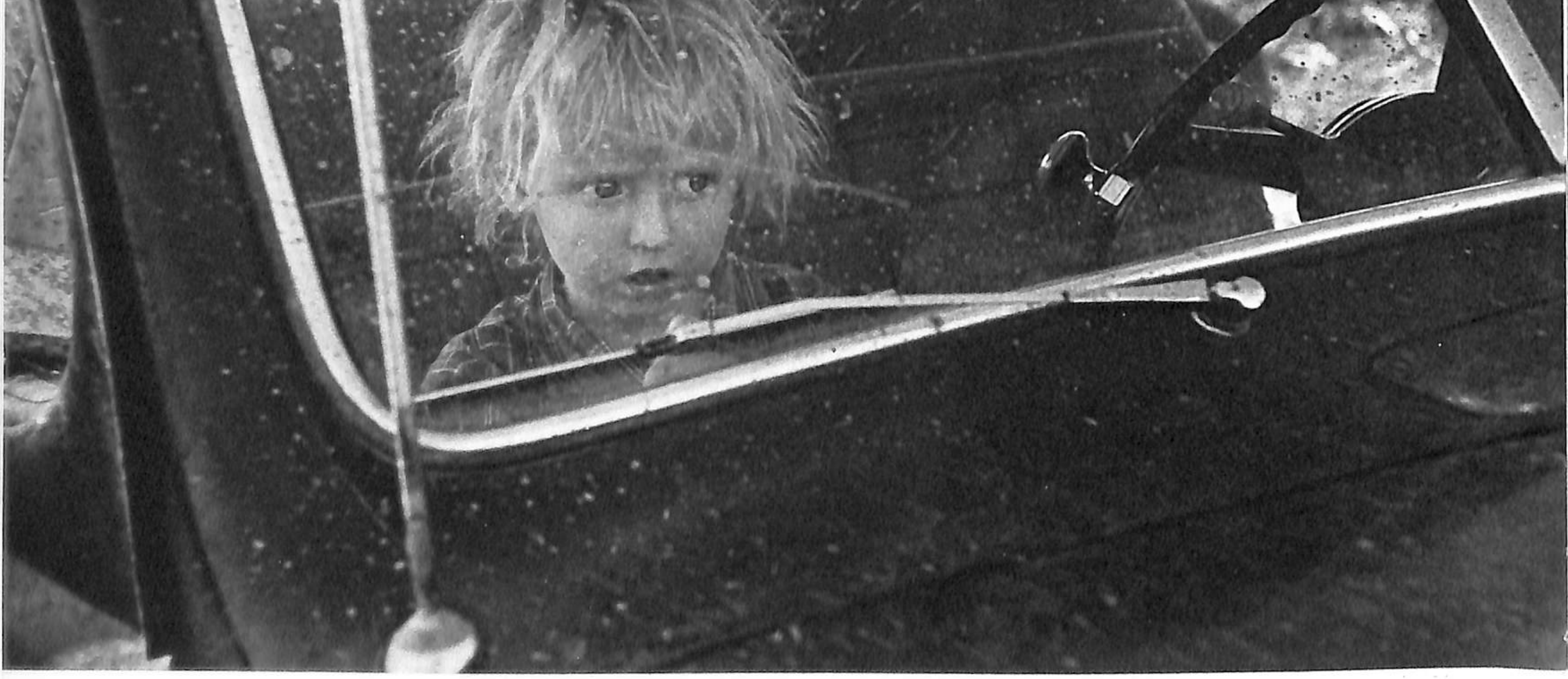
Weiner is a serious, honest technician but many readers will be surprised to learn that he has simplified his technique to such a point that most of his pictures are made with a 50mm. lens, and only occasionally supplemented by using an Elmar 35mm. wide angle. He uses a lot of film on assignment (Super-XX) to obtain the best angle, composition, and proper moment of exposure. He develops in fine grain DK-20 for normal lighting situations and D-76 for existing light shots. His prints are on Varigam, developed in Dektol, and contradict the critics of existing light candids who say that good prints are impossible under such conditions.

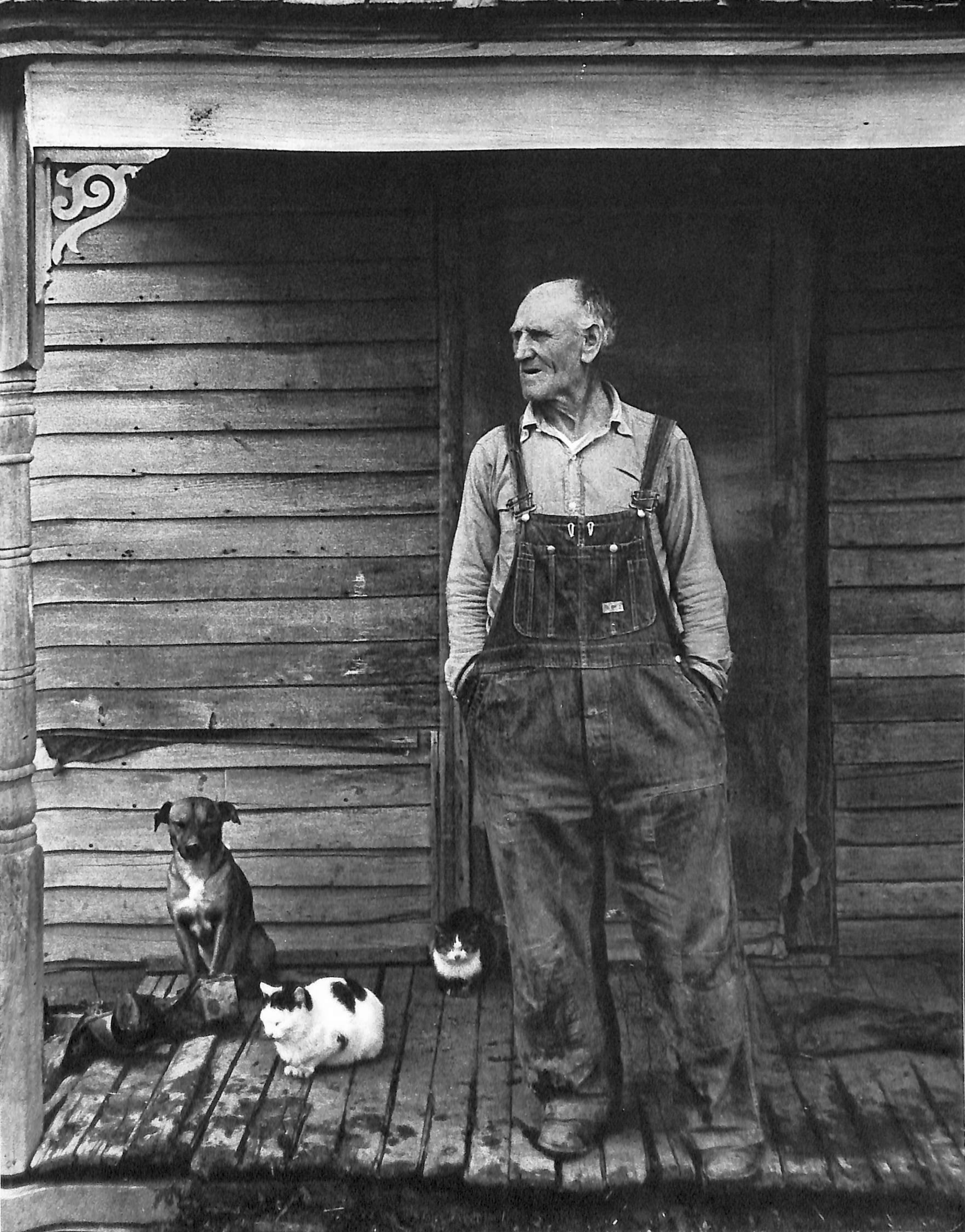
Weiner's work sets an example for those photographers who are not concerned over technique. There are too many badly produced pictures today due to sloppy technique of both amateurs and professionals.

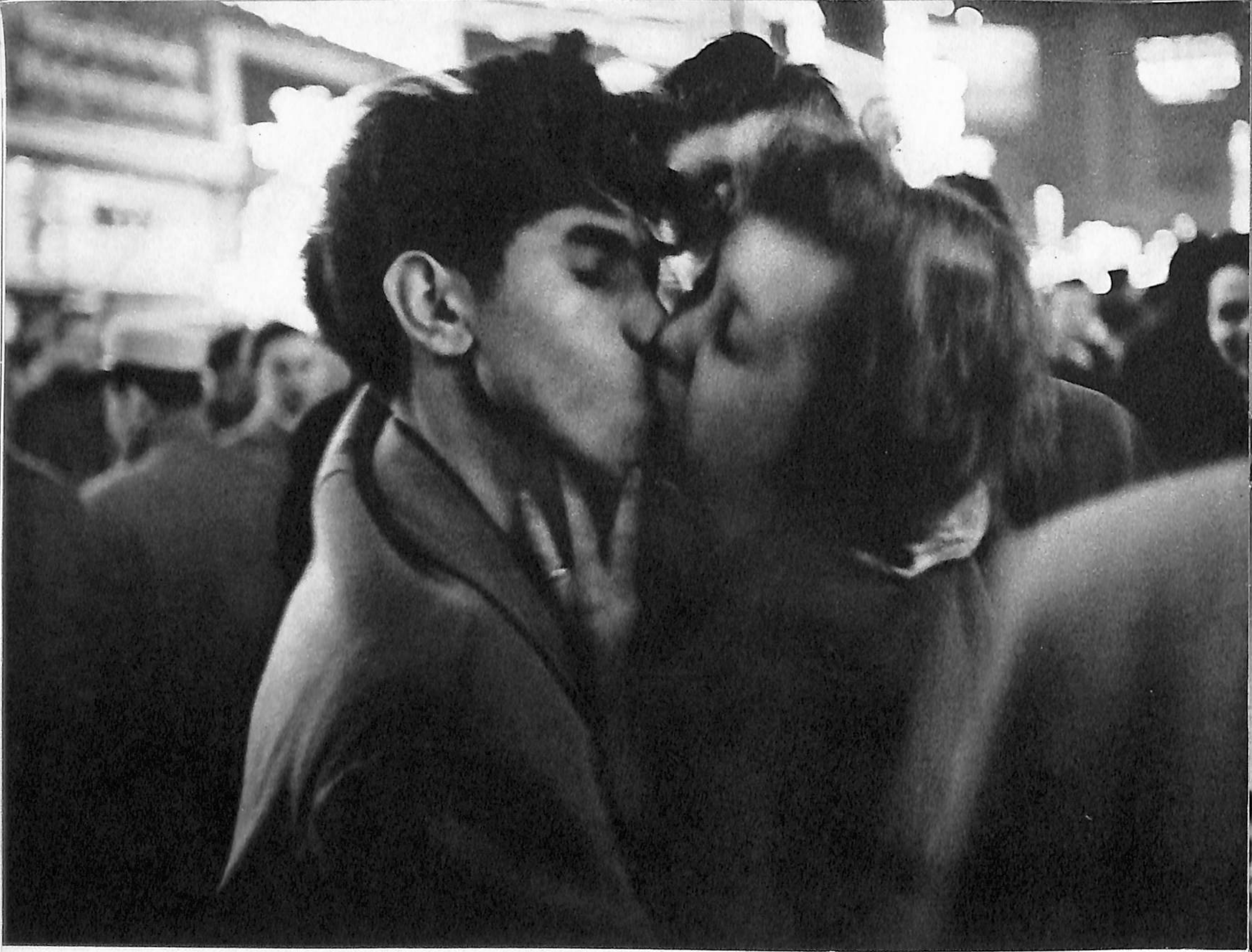
Dan Weiner's contribution to photography was well summarized by Arthur A. Goldsmith, Jr. in PHOTOGRAPHY Magazine, "In the best of his pictures, technique and content are perfectly balanced. Thus he teaches a valuable lesson and sets a goal towards which every photographer should stride: the mastery of the medium, not for technique's sake, but to communicate with greater impact"—

Stanley C. Samuel









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CITY 121 MATTOON
36 TUSCOLA
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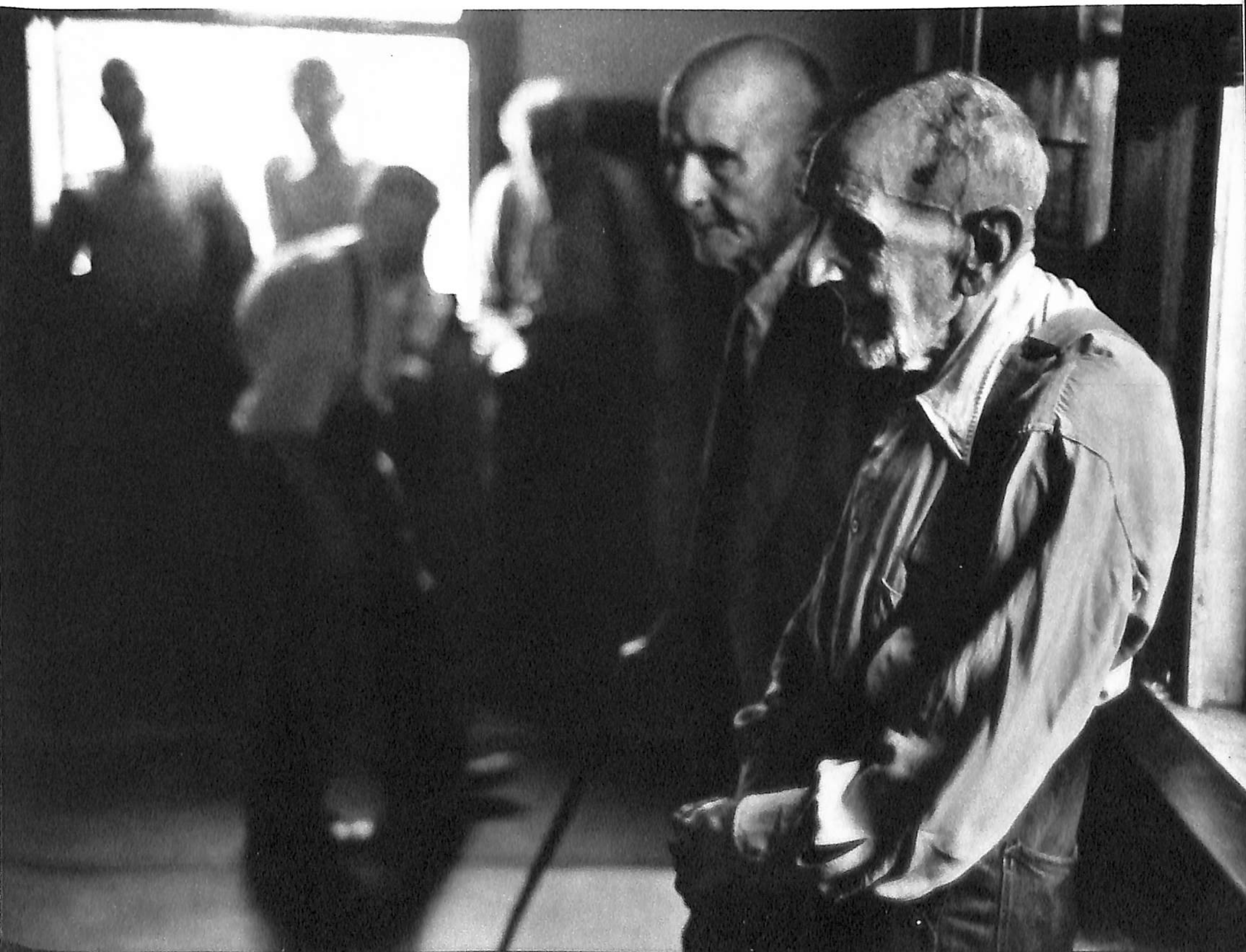
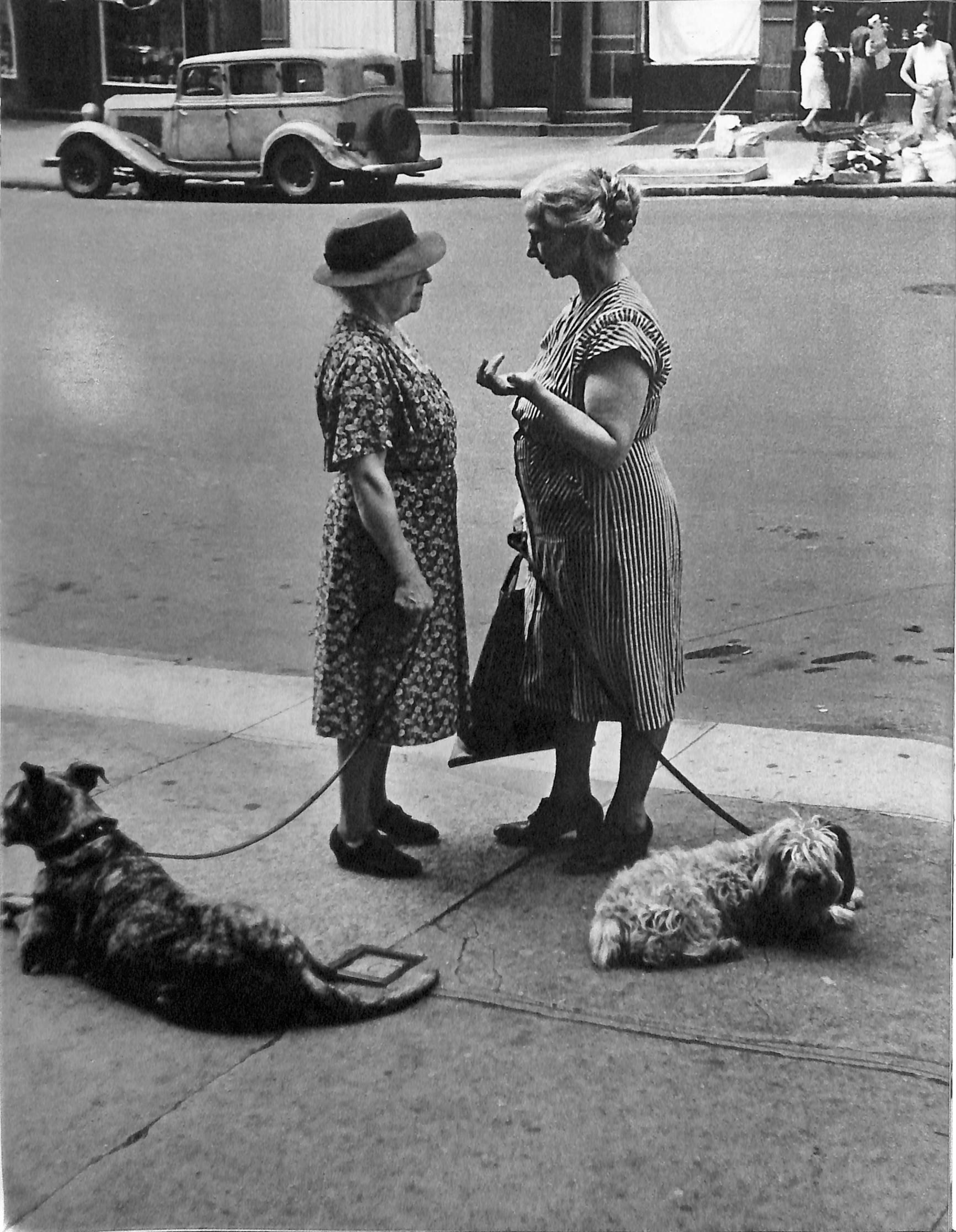




NOTES AND TIPS

CONVERT YOUR OLD LEICA . . . We are pleased to inform you that a conversion service is now available in our Repair Department. Now you can modernize your present Leica camera without the necessity of trading it in at a loss. All cameras to be converted must be sent in through a *franchised Leica dealer.*

CONVERSION PRICES

Existing Model (to be converted)	*Model After Conversion*							
	Standard	II	III	IIIa	IIc	IIIc	IIf	IIIf
A	75.00	116.00	146.00	156.00				
I	75.00	116.00	146.00	156.00				
Standard		80.00	110.00	120.00				
II			60.00	70.00				
III				30.00				
Ic*					85.00	125.00	110.00	160.00
IIc						76.00	75.00	110.00
IIIc								65.00
If							100.00	148.00
IIf								82.00

*No conversion price is listed for Ic to If as cost of conversion would exceed price of a new If body.

These prices do not include the correction of any major defects in the camera sent in for conversion.

Note: Leica Models Ic, IIc, IIIc, and Models If and IIf with black synchro scale, when converted to Models IIf, or IIIf, will be fitted with a black synchro scale and shutter speeds of 1/30th, 1/40th, 1/60th second series. Conversion *cannot be made* from black to red synchro scale or from the 1/30th, 1/40th, 1/60th series to the 1/25th, 1/50th, 1/75th series. Black finish cameras cannot be chrome plated. A black camera which is converted will remain the same color as will converted cameras with chrome finish.

Very early models of the Leica camera were supplied with lenses which had individually fitted, uncoupled mounts. These lenses can now be converted to coupled mounts:

Elmar	35mm. f/3.5	converted to coupled mount	$20.00
Elmar	50mm. f/3.5	converted to coupled mount	20.00
Hektor	50mm. f/2.5	converted to coupled mount	22.00
Elmar	90mm. f/4	converted to coupled mount	34.00
Elmar	135mm. f4.5	converted to coupled mount	38.00

BUCKLING SLIDES . . . If you have been unhappy when projecting transparencies because all of a sudden they have gone blurry, it is because the heat of the lamp caused the material to buckle in the cardboard mount. Naturally, we recommend binding your slides to keep them flat for projection purposes as well as protecting the irreplaceable transparency. The Leitz Bindomat is ideal for this purpose.

600,000TH LEICA . . . At a luncheon presentation at the Waldorf-Astoria recently, Dr. William Beebe, world-famous naturalist, was presented with the 600,000th Leica camera by Gunther Leitz on behalf of Ernst Leitz, Wetzlar, Germany. Henry Mann, President of E. Leitz, Inc., New York, was host at the occasion.

Left to right—Mr. Gunther Leitz, Dr. William Beebe, and Mr. Henry Mann, President of E. Leitz, Inc., New York

Dr. Beebe, who has often been honored for his many achievements in the science of zoology, received the camera in recognition of his outstanding work in the field of photography. The manufacturer of the Leica camera, of which 600,000 have been produced since 1923, traditionally presents Leica cameras with distinctive serial numbers to noted scientists and photographers.

Among past recipients of Leica cameras are Professor Auguste Piccard, famed for his balloon ascents into the stratosphere; Sven Hedin, Swedish explorer of central Asia; the late Dr. Paul Wolff, a pioneer in the field of 35mm. photography; and Drs. Leopold Mannes and Leopold Godowsky, co-developers of color film.

Dr. Beebe, who achieved international renown as a result of his underwater research in the bathysphere, is director of the Department of Tropical Research of the New York Zoological Society. Research based on his fifty-one expeditions throughout the world has been recorded on film with the Leica camera, as well as in books and scientific papers.

LEICA STEREO IS COMING! . . . We are pleased to inform all Leica owners that a Leitz stereo lens has recently been put into production.

This lens will fit any Leica camera model which has the interchangeable lens feature. It is a twin-lens objective, in a special mount, which screws directly into the camera body.

A prism attachment will also be available as part of the unit, which, when attached to the stereo lens, will increase the stereoscopic effect for long distance photographs.

A stereo projection attachment will be available for the Leitz Prado projector (only). Also contemplated are various viewing accessories.

The Leitz "system" of stereo photography will not be available for delivery before the Spring of 1954. Photographs and prices are not available at this time. Full details will be released to our dealers as soon as available and, most likely, the Spring 1954 issue of LEICA PHOTOGRAPHY will carry a feature story. This is all the information we have at this time. We hope you will be patient until it arrives—we are anxious to see it too.

NOTES AND TIPS COLOR TRANSPARENCY CONTEST . . . The Osborne Company, Clifton, New Jersey announces their Second Annual Color Transparency Contest which closes December 15, 1953.

Only 35mm. or larger color transparencies can be considered; color prints cannot be used. All entries must be made through a *recognized camera club*. Each club may submit up to six color transparencies, which must be submitted at one time.

There are three categories to which entries may be made; scenic, human interest, and specialized. Subjects which will not be considered are nudes, foreign scenes—except Canada and Mexico, family snapshots, disasters and wrecks, and sunsets. The purpose of this contest is to obtain material for the Osborne calendars. Cash awards will be made and winning transparencies become the property of The Osborne Company. Certain non-winning transparencies will be purchased.

Entry blanks may be obtained by writing the Contest Editor, The Osborne Company, Clifton, New Jersey. Winners' names will be announced on or before February 1, 1954.

We are most pleased to publicize this contest, particularly since a large number of 35mm. transparencies are used by The Osborne Company. This contest should appeal to the competitive spirit of all camera club members and, if you are not a member, now may be the time to join.

PHENOMENON . . . Dr. W. J. Marshall of Springfield, Missouri writes "Since it involves a phenomenon more peculiar to my profession, I could not miss an item in your summer 1953 magazine.

On page 19 is a picture of a brick wall and a door with rivet heads. Possibly your attention has already been called to it, but if one looks at the picture 'upside down,' the mortar appears to be protruding from between the brick, and the rivets as depressions in the door.

This is an interpretation phenomenon related to looking at some other geometrical figures which change in arrangement as one looks at them.

In Francis Heed Adler's textbook "Physiology of the Eye" published by the C. V. Mosby Co., 1950, there is a picture on page 684 taken of the "Monitor" (battleship). On looking at this picture upside down, the dents from the cannon balls look like bulges and the rivets appear as depressions."

ANSCO COLOR TUNGSTEN RATINGS TO CHANGE . . . Ansco of Binghamton, New York, in keeping with the demand for greater simplification in photography, has announced that they will change the color temperature of Ansco Color Tungsten (indoor) film from 3200°K to 3400°K. The latter will meet the requirements of photoflood light source.

The new tungsten films will be produced in 35mm. and roll film sizes. The change-over will be a gradual one, and it will be some time before the new color film will be generally available. It is suggested that photographers check the instruction sheets in their film boxes in the future to make certain they will be using the proper light source.

CORRECTION PLEASE . . . We wish to apologize for any difficulty caused by a typographical error in our last issue in the list of stolen cameras. Under no circumstances is Leica IIIf #601277 to be considered stolen; the correct number is *610277*.

E. Leitz of Midland, Ontario is offering a reward to the party who will cooperate and furnish the necessary information which will result in the recovery of 50% to 90% of the stolen cameras and lenses. In case the information furnished should result in recovering 50% of the equipment, the reward to be paid will be $1,000. If 90% of the cameras and lenses should be recovered, the reward will be increased to $2,000.

LEICA PORTFOLIO . . . Dr. Leon J. Ginsburg of Los Angeles, California recently sent us information about a Leica Portfolio, which is making the rounds between the United States and England. Here is how it works—In England, they have a group known as "Leica Postal Portfolio" which has twelve Circles each with about twenty members. These boxes of Leica photographs circulate among the members and then within the Circles. As Dr. Ginsburg says "I suggested, with reference to our organization here in southern California, The Leica Pictorialists, that it might be possible for some sort of exchange Folio to be organized between the two bodies if the General Secretaries got together. Following this original suggestion, I presented the idea to the Chairman and Secretary of our group, Mr. Clarence Mason, and our members thought the entire idea an excellent one. Mason and March exchanged correspondence and worked out the details of the plan. . . . The Portfolio follows the same system as any of the PSA Portfolios. We each keep the box for five days, during which time we enter criticisms in the note book and add our own print to the Portfolio, removing the old print. As matters stand now we have eight members in the Portfolio, each of whom is a member of the Leica Pictorialists of Southern California. We have four persons now asking for membership."

Your editor has seen the Portfolio and it is an excellent means for constructive criticism in a group of amateurs with a common interest. For further details, we suggest you write Dr. Ginsburg at 1755 West Century Boulevard, Los Angeles 47, Calif.

WIDE ENLARGING PAPER . . . To those of you who may have wondered where to get 51″ wide enlarging paper after reading our article on mural making in the last issue, we wish to advise that it can be obtained through The Gevaert Company of America Inc., 423 West 55 Street, New York, N. Y.

LEICA WINS AGAIN . . . The Lever Brothers Company, in a recent photography contest, chose a color transparency by Mr. Herbert Ernest of New York City as the winner from approximately 1000 entries. Mr. Ernest's winning shot of Lever House in New York was taken with a Leica and Elmar 35mm. wide angle lens at f/12.5 and 1/40th of a second. He had never entered a contest before, although he has long been a Leica enthusiast. Congratulations, and keep up the good work!

TIME EXPOSURES WITH THE LEICA . . . There are three methods for doing so:

(1) Set Slow Speed Dial to "T", open the shutter by pressing the release button. To close the shutter, turn the slow speed dial slowly (to 1 or farther), and the shutter will close immediately.

(2) With the shutter open, advance the film by means of the film winding knob. This action will also close the shutter. This method is important for photomicrography and special purposes, particularly when using the Focaslide, Bellows, or Micro-Ibso attachment.

(3) Attach a cable release to the shutter release button. Set Fast Speed Dial to *B* after winding shutter. Open shutter by means of cable release and lock plunger down by tightening the set screw on the release. To close the shutter, release the set screw.

CREDIT LINE . . . The beautiful transparency reproduced on our back cover was taken by Mr. Mario Garretoni of Rome, Italy, and first appeared in PHOTOGRAPHY magazine. Mr. Garretoni used a Leica IIIc with Elmar 50mm. lens and supplementary front lens No. 1; exposure was at ¼th second at f/18 in hazy sunlight using Ansco color film.

THANK YOU, BUT NO . . . Naturally, we are always very happy to see orders for merchandise come into our office. However, we cannot accept orders for direct shipment to the Leica owner (except for books and publications). We have over 1200 franchised Leica dealers who stock our equipment and from whom you may make your purchases.

We appreciate your sending us your checks, money orders, etc., but we will have to return them in keeping with our basic sales policy. Your franchised Leica dealer will appreciate your patronage.

MULTIPLE FLASH METHOD . . . Since we introduced the BC insert for the Leica flash unit nothing has been published on its use for multiple flash.

There is a method for using the Leica B-C flash in multiple. Insert the bulbs in the units (each unit must contain a B-C insert) and allow five to ten seconds for the condenser to reach full charge before connecting the units to each other. The Multiple Flash Plug (catalog No. 16,110), and Extension Cord (catalog No. 16,105) are used for this purpose. This arrangement for multiple flash places the units in parallel and, if the condensers are not charged before connecting the units, the bulbs will fire prematurely.

After each firing of the bulbs, the units must be disconnected before new bulbs are inserted.

FLASH FACTOR CARDS . . . The flash factors and bulbs which are listed on our flash factor cards, both for red dial and black dial Model IIIf, IIf, and If cameras, contain all the available data we can give you. We cannot supply flash factors for unlisted bulbs or films, but if any new information is available in the future we will change these cards accordingly. These dial settings and flash factors apply *only* with the Leica IIIf and a Leica flash unit. They should not be used when using the Leica flash unit on other cameras nor when using other flash units on the Leica.

LEITZ SCIENTIFIC INSTRUMENTS . . . Many Leica owners are probably not aware of the world-wide reputation of the optical works of Ernst Leitz, G.m.b.H. of Wetzlar, Germany. Leitz microscopes and scientific instruments for research and technology have been manufactured for over 100 years, and it is this experience in constructing technically perfect scientific instruments which is responsible for the development of the Leica camera.

Since many Leica owners are doctors, professional men, business and industry leaders, we thought you would like to know about the type of scientific instruments we have available: medical microscopes, prism magnifiers, research microscopes, polarizing and petrographic microscopes, chemical microscopes, photomicrographic apparatus, micro-projectors, metallurgical microscopes, hardness testers, ore and coal microscopes, instruments for thermal analysis of metals, colorimeters for clinical and industrial use, and many others.

We welcome your inquiries for detailed information about these products.

this
sword
challenges
CANCER

Science Magic

FOR YOUR HOLIDAY PARTY

by Kenneth M. Swezey, Brooklyn, N. Y.

(Editor's Note: Ken Swezey has probably done more than any other writer-photographer to devise and popularize science stunts that can be performed at home with simple equipment. His experiments have been featured in Life, The Saturday Evening Post, Collier's, Popular Science, etc., on several television programs, and in his books. "After-Dinner Science" and "Science Magic," published by McGraw-Hill. He has been an ardent Leica fan for eighteen years, and here presents some of his stunts taken with that camera.)

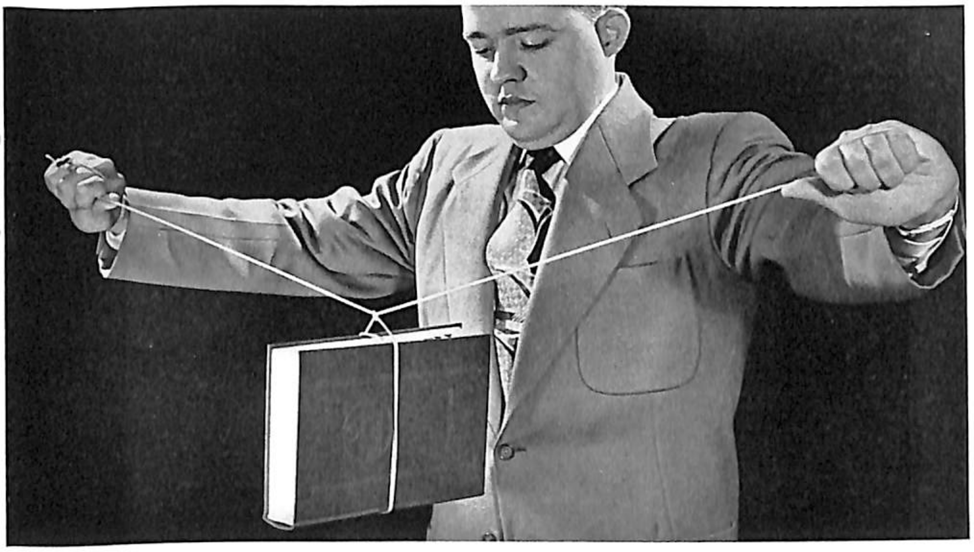
Dinner-table science can often be more amazing than the tricks of professional magic. Here are a few examples which you can perform with balloons and strings, milk bottles, tumblers, and other items of everyday living.

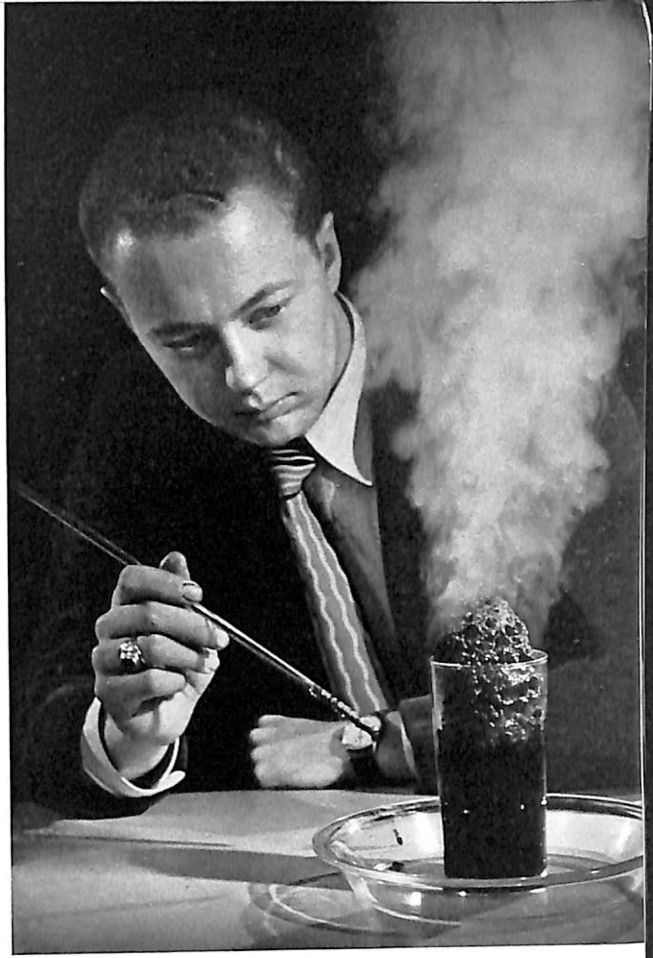
The photos that illustrate the stunts are themselves an experiment made to prove that a Leica can take sharp pictures, with excellent depth-of-field, under lighting conditions that would mean failure to a larger camera.

For front light I used only two ordinary 150-watt household bulbs; for back light, one 250-watt spotlight.

On an already overloaded house circuit, this was often all the current I could draw without blowing a fuse.

To get depth-of-field, I stopped down the 50mm. Elmar to openings ranging from f/8 to f/5.6. For steadiness, I used a tripod. I shot on medium-speed film at speeds from 1/10 to 1/20 second. The final results proved better in overall sharpness than any I could get, under the same conditions, with a 4x5 camera.





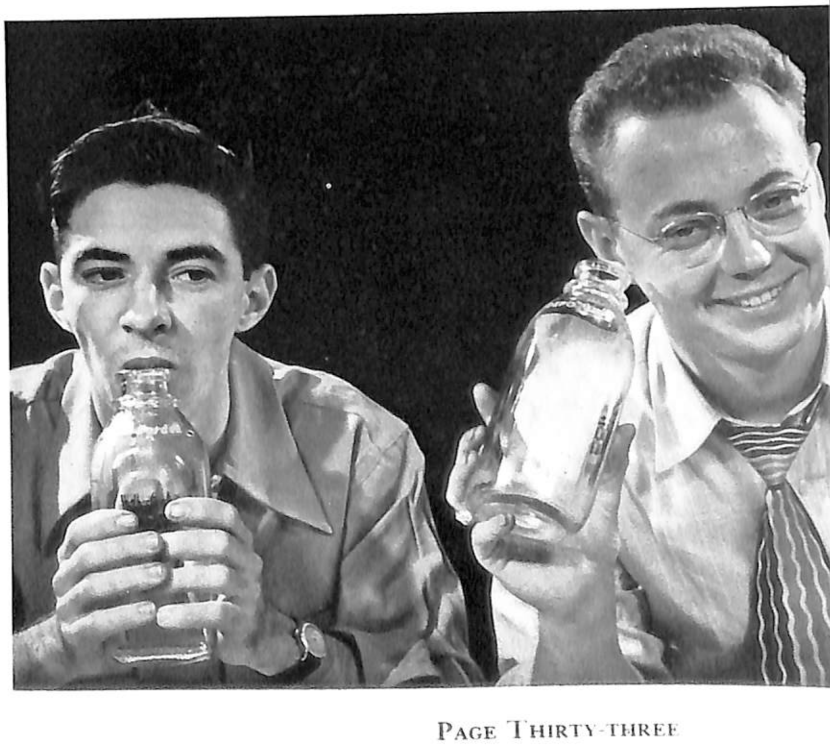
For your first stunt, place a balloon in the breeze of an electric fan, directed upward. Then tilt the fan toward the horizontal, as shown on the facing page. Defying gravity, the balloon stays in the breeze! Why? Because swift-moving air rushing past the balloon is at lower pressure than the still air beyond. Whenever the balloon tries to escape, the outside air pushes it back into the breeze.

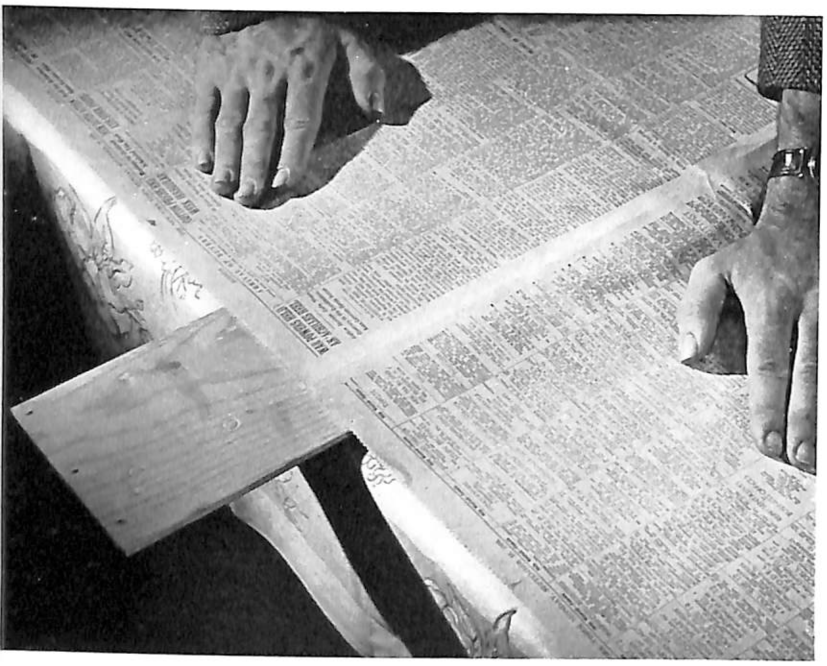
Think you can balance a teacup and two dinner knives on the tip of one finger? It's easy if you cross the two knives through the handle, as shown, holding them in place with a roll of newspaper or paper napkin. The cup doesn't fall because the center of gravity of the cup and knife combination is below the point of support.

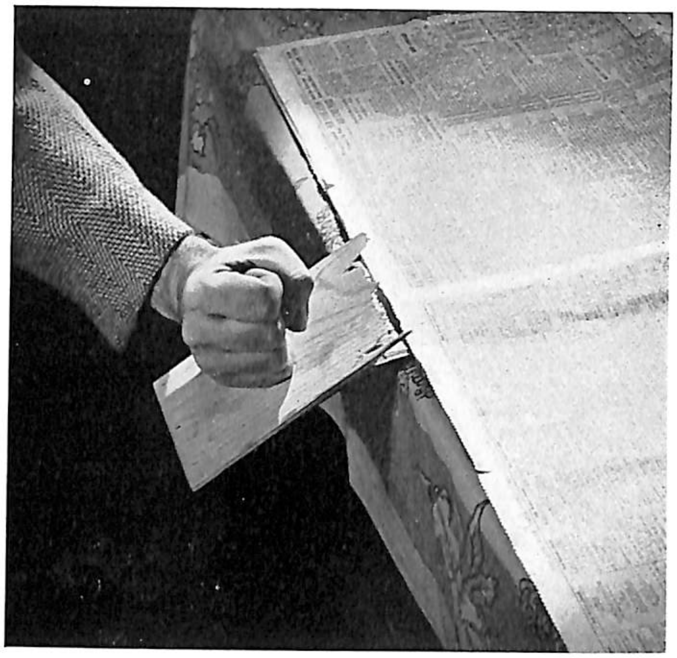
Try this on the strong-man of your party. Tie a book to the middle of a stout cord and ask the amateur Hercules to stretch the cord until it is perfectly horizontal. It can't be done! Although the book weighs only several pounds, most of his effort will finally be exerted in one hand pulling against the other.

Common sugar and concentrated sulphuric acid are the only ingredients in this amazing "witches brew". (Get the acid at your local drug or photo supply store, and be careful, as it is very corrosive.) Half fill a small tumbler with sugar, and place on a glass pie pan for safety. Add an equal amount of sulphuric acid, and stir thoroughly with a glass rod. In a few seconds the mixture begins to swell and fume. Finally—amid clouds of smoke—a black, spongy, snake-like mass, five times the bulk of the original sugar, climbs slowly up and out of the glass! Before your eyes, white sugar is transformed to black carbon and steam.

If you blow strongly across the top of a milk bottle, the air inside will vibrate to produce a clear musical note. Let a party guest hold another bottle near his ear as you blow, and he will hear a similar note coming mysteriously from his second bottle. The reason? Because each bottle contains the same amount of air, they are in tune. The second bottle therefore responds much as your radio receiver when tuned to a broad-







casting station.

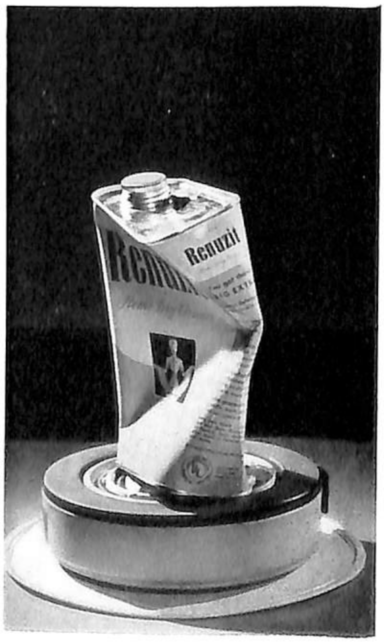
With a slat from the side of an orange crate and a couple of sheets of newspaper you can demonstrate dramatically the tremendous weight of the atmosphere. Lay the strip on a table so that 4 or 5 inches project over the edge. Then spread two whole double sheets of newspaper over the part of the strip that rests on the table, smoothing down carefully.

Now strike the extended end a hard, swift blow with your fist. Instead of tossing up the paper, the stick snaps in two! Because air is unable to get under the paper fast enough to balance the air above it, the air pressure on top of the paper may be momentarily as much as five tons!

If your body were not composed chiefly of incompressible liquids and solids and, if air did not fill the spaces between them, you would be crushed flatter than a pancake by the external pressure of the atmosphere. If all the air could suddenly be removed from inside your house, that structure would instantly be smashed to the ground.

The tremendous pressure of air can be shown with another startling stunt. Put about ½ inch of water into an empty, flat-sided quart or gallon can. Set the can on a stove and boil the water briskly for several minutes. Then turn off the heat, and as soon as escaping steam will permit, stopper the can tightly. As soon as the can cools enough, the steam inside condenses and produces a partial vacuum. No longer able to buck the pressure of the outside air, the can slowly collapses . . .

Crushed literally in the hand of an invisible giant. ◈



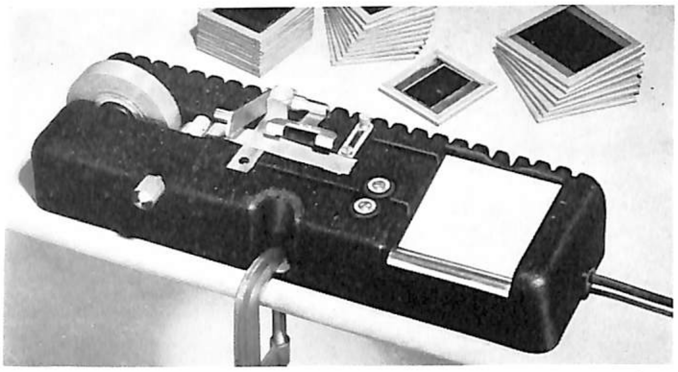
LEICA XMAS SHOPPING GUIDE

FLASH UNIT—Indoor shooting reaches its peak during the festive days ahead. Memorable pictures of Thanksgiving, Christmas, and New Year's Eve parties are made easy with the Leica flash unit, which folds to pocket size. It is good for multiple flash, too (see Notes and Tips section). Now in stock: CEYOO, #16,020, $24.00.

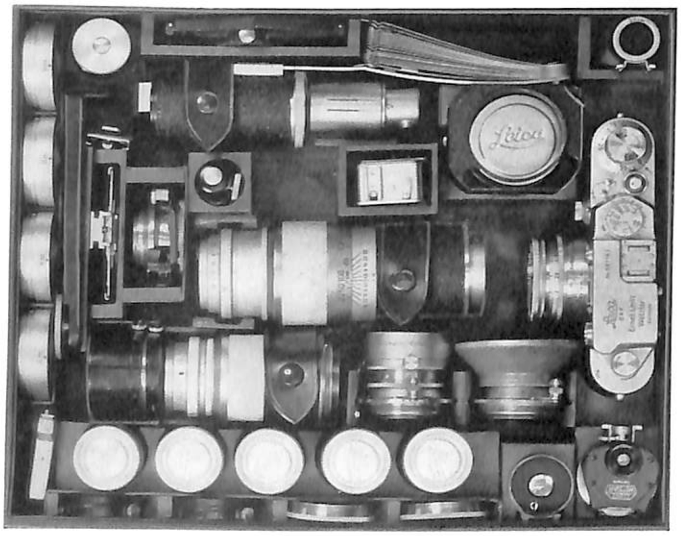
BINOCULARS—An ideal gift at any time for the yachtsman, bird watcher, theatre and sports goers. Leitz precision prism binoculars are the finest available. Sizes 3x13.5 to 15x60. Prices range from $84.00 to $204.00, plus tax. Monoculars in sizes from 4x20 to 15x60 are also available. Prices range from $39.00 to $99.00.

ENLARGING LENS—The new Focotar 50mm., f/4.5, coated lens, with click stops, for use with the VALOY or Focomat Ic enlargers, will make your darkroom friends' season happier: DOOHF, #17,581, $45.00.

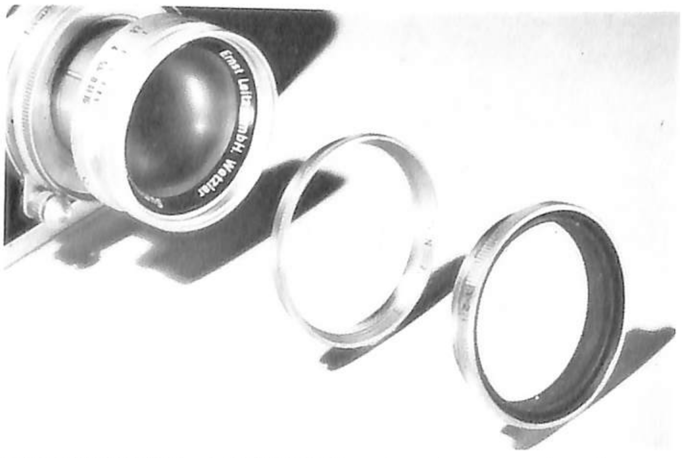
SELF-TIMER—Don't be left out of those special pictures you are going to take—get yourself on film by using a self-timer (with delay of about 12 seconds). Complete with leather case: ASKOO, #16,010, $7.56.



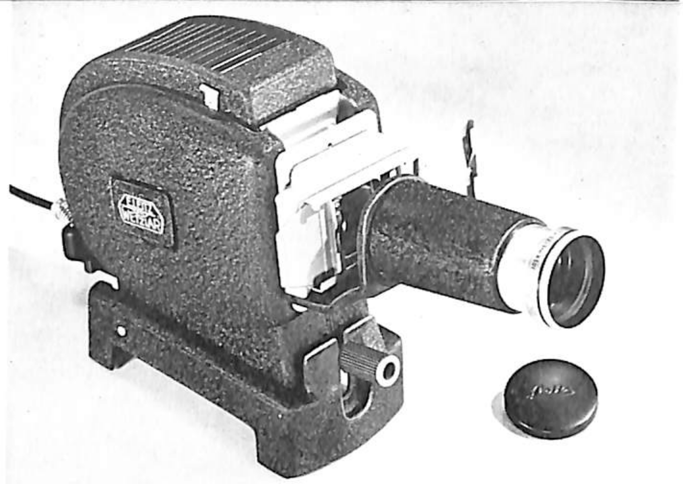
BINDOMAT–Precious color transparencies should always be protected by mounting. The Bindomat is still the best way to permanently protect them. Complete with 100 glass plates, 100 masks, one roll of tape, and a "C" clamp; DAMOT, #15,205, $18.00.



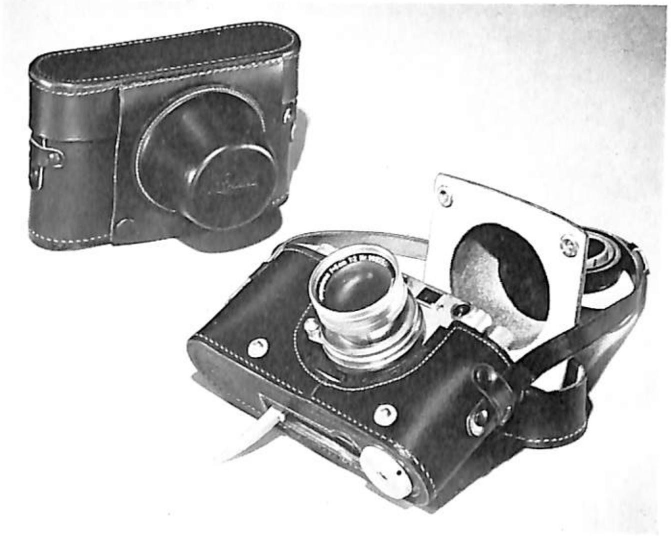
COMBINATION CASE – New and jumbo-size; designed to accept just about everything a Leica owner might need. If you are buying for an ardent Leica fan, this will be most welcome; EKOOZ, #14,547, $48.60.



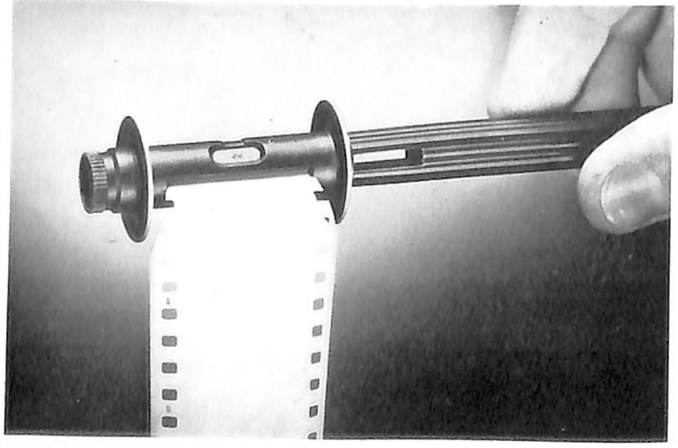
SUMMICRON ADAPTER – Good news for former Summitar owners–a new adapter is available to permit use of Summitar filters on the new Summicron lens. No need to trade filters: ADSFMI, #13,153, $2.85.



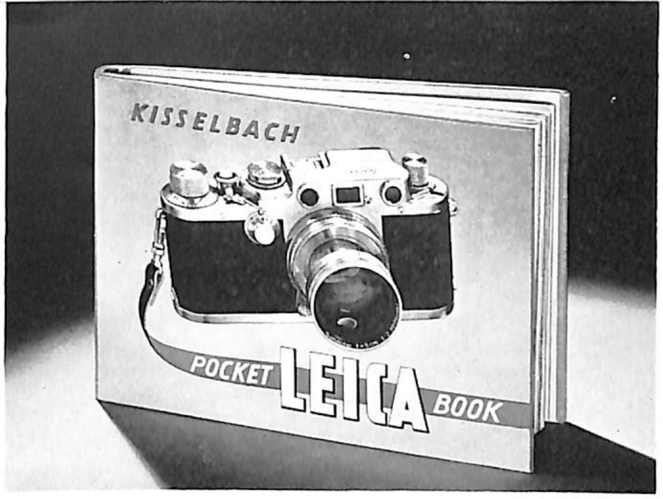
PRADO PROJECTOR – For the utmost in viewing enjoyment, Leitz Prado projectors are available in 150 or 250 watt models; your choice of lenses from 85mm. to 150mm., built-in tilting adjustment, window for reading notes; carrying cases also available. $79.00 up.



LEICAVIT CASE – For the lucky owner of a new Leicavit rapid winder, two cases are available; for a camera with Summicron lens, EPZOO, #14,535; or for a camera with a Summarit lens, EMOOX, #14,540; both $12.60.

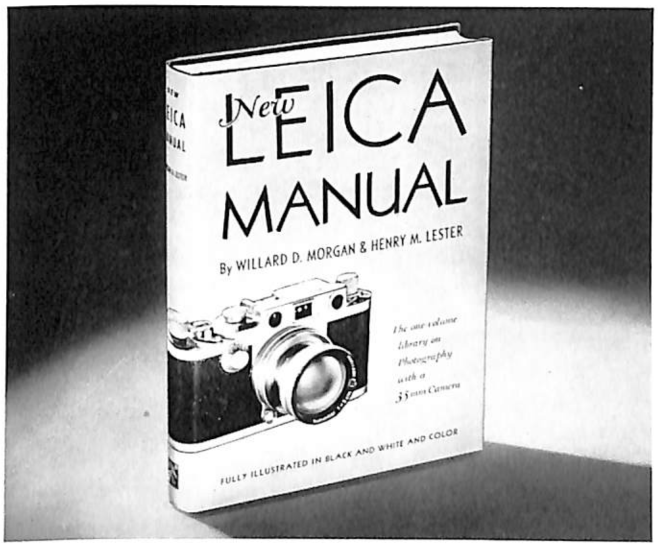


HAND FILM WINDER – For loading bulk film into Leica film cassettes in the darkroom. Keeps fingers off film. Makes it easy to wind film on straight and tight: AGRIF, #15,005, $.60.

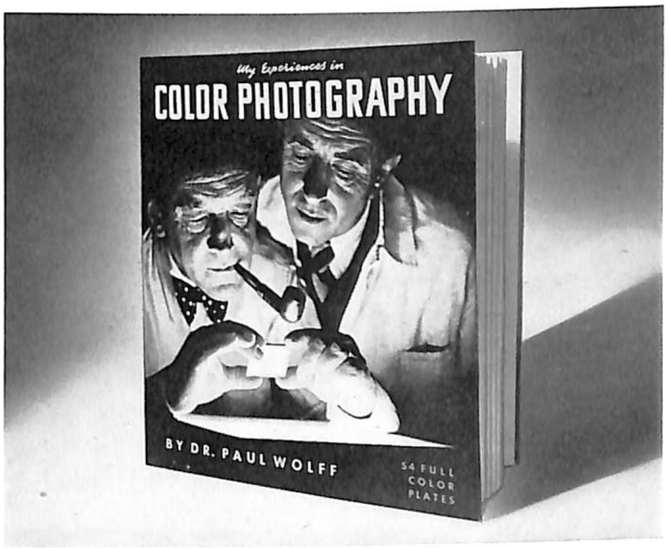


POCKET LEICA BOOK by Theo. Kisselbach – A handy reference work written in English, printed in Germany. Available through Leica dealers or direct from us; PLBKEE, #20,014, $2.95.

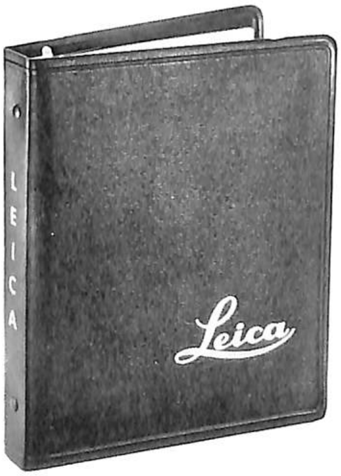
LEICA PHOTOGRAPHY GIFT SUBSCRIPTIONS to non-Leica owners will stimulate greater interest, in photography, among friends. The English LEICA FOTOGRAFIE is available from Rayelle Foreign Trade Service, 5700 Oxford Street, Philadelphia 31.


New LEICA MANUAL
By WILLARD D. MORGAN & HENRY M. LESTER
FULLY ILLUSTRATED IN BLACK AND WHITE AND COLOR

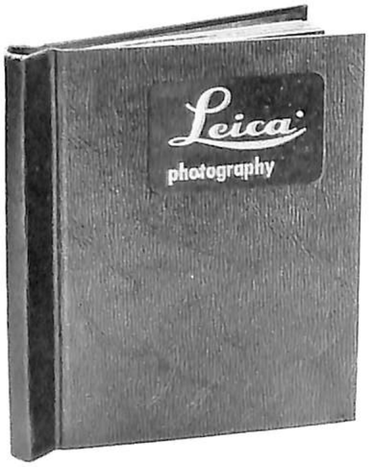
THE LEICA MANUAL – Always on the photography best-seller list – now in 3rd printing, 12th edition; LIMAN, #20,010, $5.00. A Spanish edition is available from Morgan & Lester, 101 Park Avenue, N. Y., $8.00.



MY EXPERIENCES IN COLOR PHOTOGRAPHY by Dr. Paul Wolff–A text on color photography which is a collector's item. A luxurious gift to a 35mm. fan; PWLCB, #20,012, $10.00.

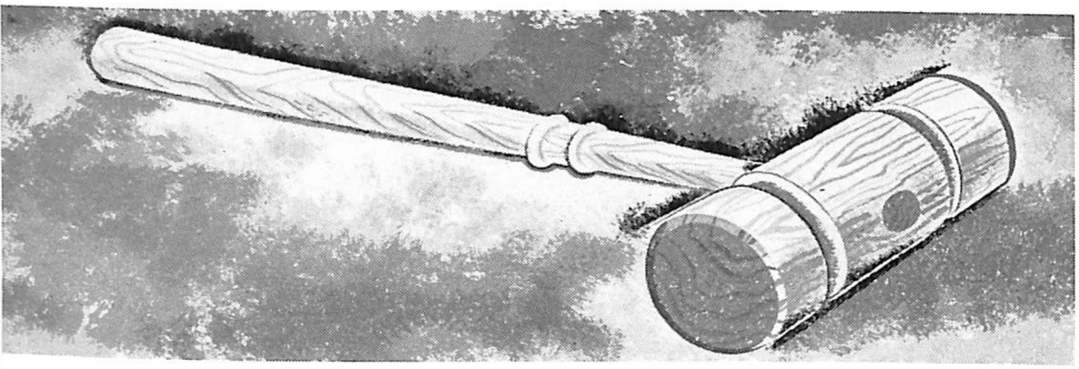


LEICA BINDER to hold all pertinent data and pamphlets on Leica equipment; 7"x9", multiple rings, 1" capacity, blue cover and gold lettering; LEBBM, #20,005, $1.35.



LEICA PHOTOGRAPHY BINDER–For a permanent library of this magazine; holds up to 8 copies, 9½"x 11½", green finish with gold lettering; LPBGL, #20,000, $3.00.

Season's Greetings



Story by Quincy Dadisman
Photos by Florian A. Klasinski

Both of the
STEVENS POINT DAILY JOURNA
Stevens Point, Wisconsin

LEICA IN THE COURTROOM

The circuit courtroom in the Stevens Point, Wisconsin Courthouse (Portage County) is a photographer's nightmare. Its dark oak woodwork, high drab ceilings, and tall, narrow windows don't give much opportunity for shooting by existing light. But when pictures were needed in the courtroom a Leica, and careful developing techniques, teamed up to solve the problem and provide acceptable cuts for the STEVENS POINT DAILY JOURNAL.

Our first experience with the courtroom came on a dark, overcast day. The exposure meter barely flickered even with all the shades up to the tops of the windows and all lights turned on.

The occasion was a relatively minor trial of a speeding charge which had excited considerable public interest as the defendant and the arresting officer had been engaged in a personal feud which threatened to usurp the entire front page of the paper.

Before the trial, County Judge James H. Levi agreed to permit the use of a camera if it did not interfere with the case, and if neither the defendant, who conducted his own defense, nor the district attorney objected. We decided the Leica, because of its size, ease of handling, and fast lens, would prove superior to the larger and bulkier press camera with its film holders and weight.

A Summarex 85mm. lens was used, and an arbitrar effective film speed of 800 Weston adopted for th lighting and developer combination. The film was de veloped for 21 minutes in Promicrol (English) deve oper. Inspection development followed after desens tizing with Ansco Pinakryptal Green. A safelight wit an OA filter was used about seven feet from the film The negatives proved quite grainy, but usable for som very good *newspaper* engravings.

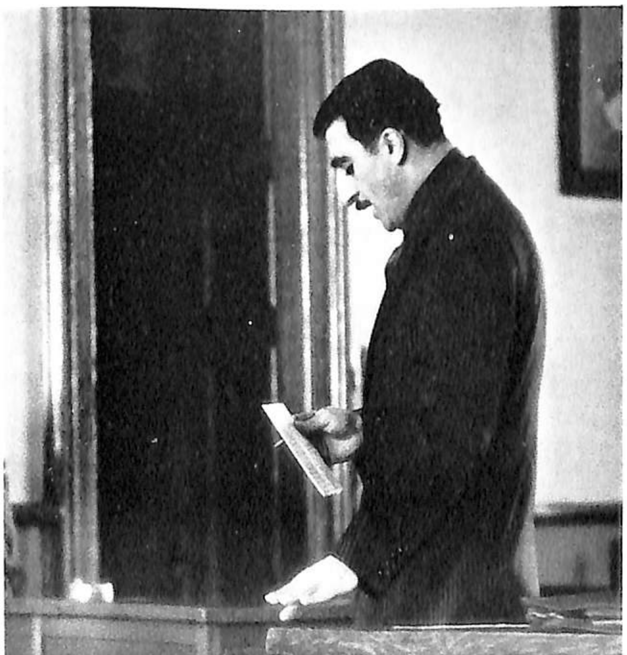
The second series was taken as part of a long-ter project which is still under way. We needed a set "thumbnails"—half-column pictures of local gover ment leaders. The county board of supervisors—th county's governing body under Wisconsin law—mee in the circuit courtroom frequently. Another dark an foggy day gave us very little natural light in the roo The first session proved that 800 was too fast a spee under the adverse lighting conditions, so exposure wa computed on the basis of an effective 320 Weston. Thi time, close-ups of individuals were the aim and Hektor 135mm. lens was used. The Leica again prove its value by being inconspicuous. A press camera wa also tried that day, but board members were consciou of the big black box swinging toward them and invar ably posed. They didn't notice the smaller Leica.

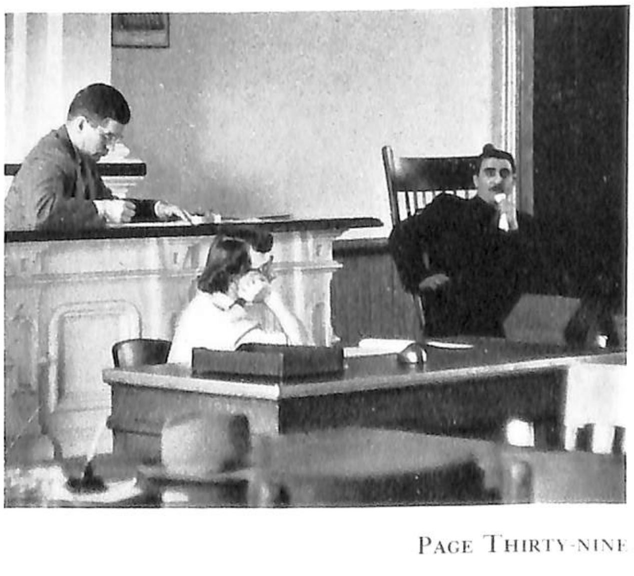
Exposure had been on a "by guess and by gosh" bas

with the exposure meter readings at the very bottom of the scale. The 135mm. lens was used at f/4.5 at 1/30 second. The 85mm. was tried at f/2.5 at 1/200 and at f/3.2 at 1/100 second. We discovered that the higher speeds were not needed to stop action—that what appeared to the eye to be rapid oratorical gestures usually left the face undisturbed. The same development procedure was used except that only 12 minutes were needed to bring about full development.

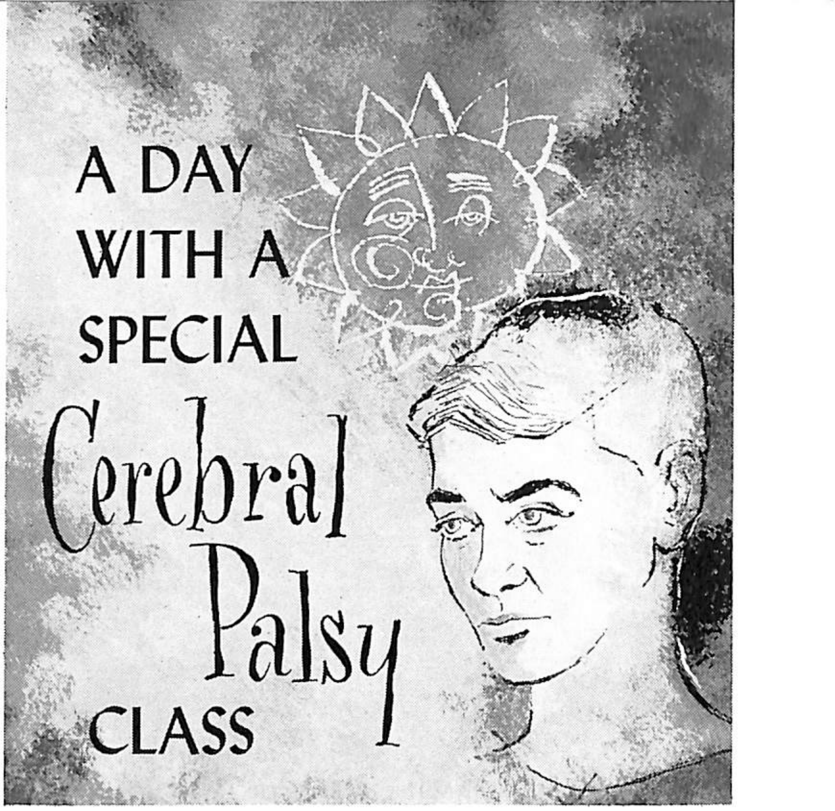
(Editor's Note to the Author. It's time to get a Leica-Meter with super-sensitive element.)

Our experiments in the courtroom are unfinished. We expect more picture opportunities of a type that are *seldom offered newspaper cameramen.* Rare are the opportunities for recording dramatic moments in the courtroom. Frequently, judges have been reluctant to permit cameramen in the courtroom because they believe flash bulbs and photographic paraphernalia disrupt the decorum of the courts. Surprisingly, we have had no objections, either from attorneys or their clients. We feel that they would find it hard to offer logical opposition to the Leica being used with existing light. It certainly causes no more disturbance than the spectator who coughs—and the Leica serves as a bridge—telling the public what the courts are doing. ◆





A DAY WITH A SPECIAL Cerebral Palsy CLASS



First steps without assistance.

by Lisel Lowen
Department of Health, Borough of Manhattan, N.Y.

The United Cerebral Palsy Association raises funds to provide grants for institutions and treatment centers caring for children with cerebral palsy, provides funds to train persons working with handicapped children and provides educational and vocational guidance for parents of afflicted children.

In New York, the Bureau for Handicapped Children operates four special school units with the Board of Education. These classes help these children to get along with the handicap they have. The greatest miracles of all usually occur when the children get in an environment where they are treated like "regular" children.

These pictures are just a few of the hundred taken during two school days, at P. S. 118, for a booklet

Keeping up with their grades.

Group activity eases tension.

Learning to get on by themselves.

which was distributed to parents of cerebral palsied children, and to organizations and individuals concerned with the problem of cerebral palsy.

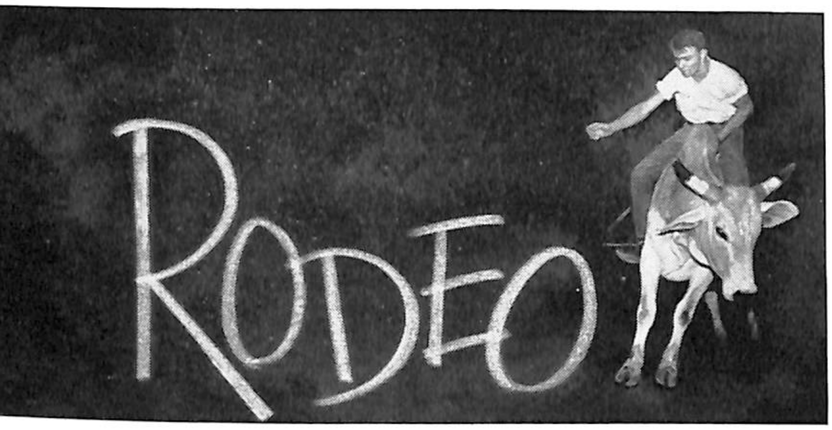
A Leica camera was used so that natural photos of the children could be taken. On a previous occasion, they shied away from larger equipment. All shots were made with a Leica IIIc, 50mm. Elmar lens, and Super-XX film. Indoor exposures ranged from 1/40th to 1/20th of a second at f/3.5. Most of the pictures were made in natural light but, in a few instances, it was supplemented with one reflector-type photoflood lamp #2.

If the results obtained lead to greater support of this worthy cause, my Leica camera will have proved its value in just this instance. ◆

Rest period.

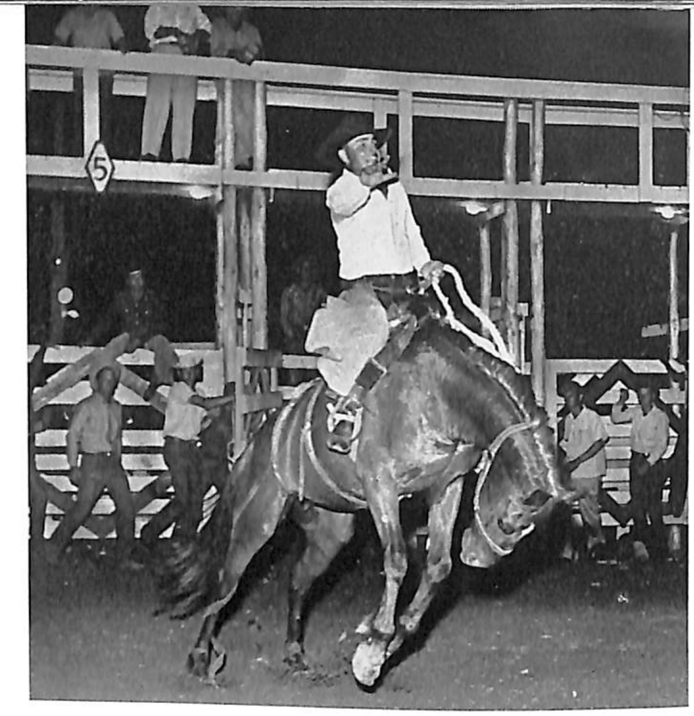
Play is also therapy.

And so home.



RODEO PHOTOGRAPHY

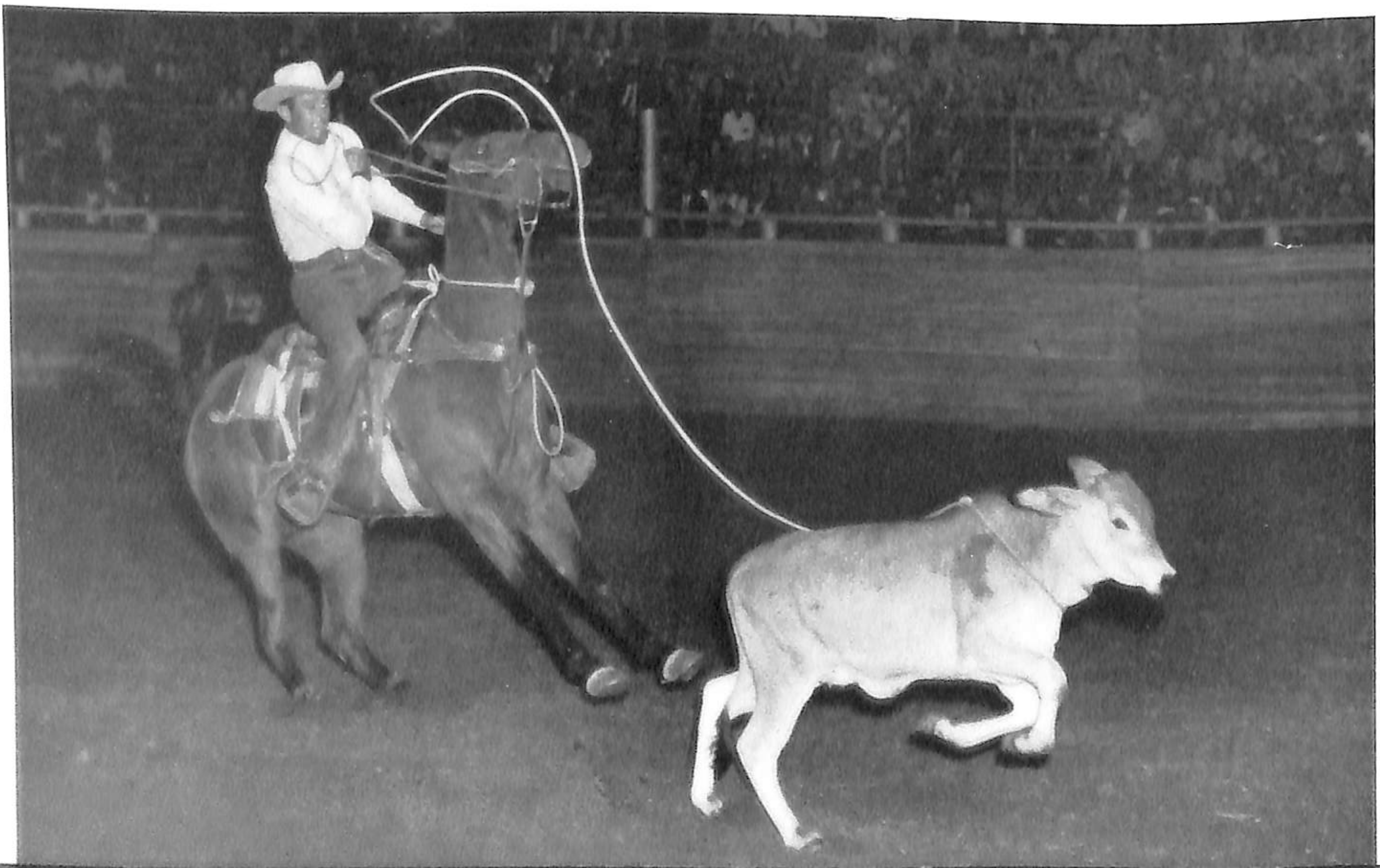
by **Arthur Baker, Justin, Texas**

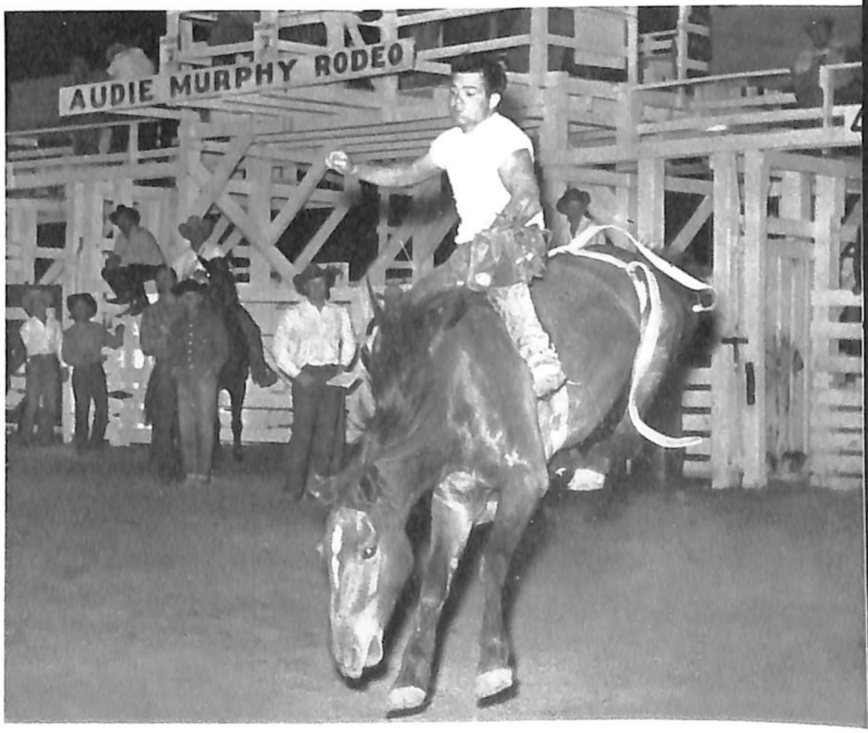


Rodeo photographers are not born! They are sifted from the arena sand or scraped off the "bucking chute" gates. I got into it by "accident" with an old box-size camera and homemade flash that almost electrocuted me during a rain storm; but now I use a Leica and Summitar lens with strobe unit because in the arena you have to move fast.

The basic rule for any rodeo photographer is to be alert and to be careful. The unexpected is often excellent picture material, and if you hear a cry of "heads up" get out of the way because either a bucking horse or a mean Brahma bull is on the loose. A Brahma can jump a seven or eight foot wall with no trouble at all, and I have been knocked off a ten foot perch. Be careful of a fast bucking horse making a tight circle, run to the outside of the circle so that he cannot reverse his body "English." If a bull charges you with head high, he has an eye on you, and his horns are sharp!

You might ask, why go through all this difficulty just to take pictures? Well, there is money to be made by selling them to the cowboys. A professional cowboy will buy a dozen or more of a picture he likes. An amateur will buy anything you take of him the first two years, and most pictures are sold at amateur shows. But you have to show them "in the air" to make them sell so that the picture does not look like a replica of the old calendar photo "The End of the Trail." No good rider will buy a picture with his feet anywhere near the cinch. Feet in the mane or above the rider's head are a showy difficult style, but most cowboys want the pictures taken coming out of the chute gate because these pictures usually show their feet in scoring position.





Of course, the rodeo photographer has to contend with the "pick-up men" in the arena, which are as much of a hazard as the wild animal, but I find, after many years of experience, that if you stand in the center of the arena about 60 feet from the gates, you will get a good shot. I set my lens at f/4 and my distance scale on 20 feet. All my night pictures are made that way, but if the sides of the arena are white, I close down one more stop. For color pictures at night, I shoot at f/2 at about 17 feet. Outdoors, I use a long focus lens at f/4, 1/500th, at 25 feet. You have to get closer at night because the lighting equipment won't reach the subject otherwise. Other incidentals—Super-XX film, which I bulk load into Leica cassettes: I develop in Microdol, print on Kodabromide developed in Dektol.

Rodeo photography is a lot of fun, but you have to be fast on your feet. A crowd loves a rodeo photographer, but they will cheer for the bull everytime he chases one.

As my dad always told me, "Watch a horse hind-ways, a bull head-ways, a steer side-ways, and watch them all, always." So if you're going to take rodeo pictures—be careful, son—be careful. ◈

PHOTOGRAPHING MINERALS WITH YOUR LEICA

by Harry B. Groom Jr.

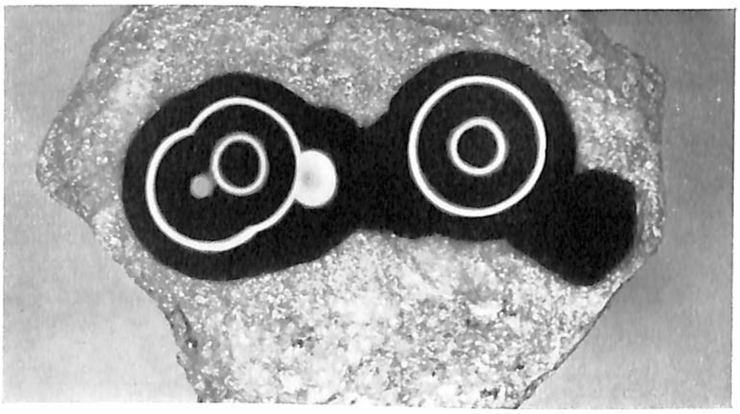
Continued from page 8

In addition, you should have a Leica-Meter, a sturdy tripod, floodlights, and an assortment of colored background cards. The latter may be obtained from artist supply stores in a wide variety of colors and shades. They should not be smaller than 18"x 24".

The line drawing shows the arrangement which I used to make the photographs shown in this article. Lighting consisted of two #2 reflector floodlights and one #2 reflector spotlight. The baseboard and vertical column of my Focomat enlarger served very well to support the background cards in the manner shown. Curving the card up against the column eliminated the distracting horizontal line which would have resulted if a separate backdrop were used. It also permitted most of the card to be equidistant from the lights, thus reducing exposure (and consequent color) variation in different areas of the card. In making the photographs I used the minimum aperture of f/32 *(Editor's Note — older model Hektors have f/36 as a minimum.)* and varied the time, according to the Exposure Factor table, from one second up to 5 seconds. Meter readings were taken from a neutral gray card held near the mineral.

For best results, you should vary the lighting conditions slightly to suit the individual specimens. For unusually light-colored or dark-colored minerals, the exposure should be varied by about ½ stop from that indicated by the meter. Diffused light, or a Leitz polarizing filter, should be used in photographing large crystals of minerals possessing metallic adamantine, or vitreous luster. Balanced back-and-front lighting, achieved by increasing the floodlights-to-subject distance while directing the spotlight to the background immediately behind the specimen, will illuminate such crystals more satisfactorily than straight front lighting. The beautiful and delicate textures of some minerals can be accentuated by side lighting. However, care must be taken to avoid large shadow areas which will exceed the contrast latitude of your color film. These disturbing dark areas can be softened by subdued fill-in lighting. The remarkable luster changes of stones such as asterated rose quartz, star rubies, and star sapphires can be best displayed if the main illumination is a point source of light. A spotlight, focused so that the beam is as narrow as possible, will give quite satisfactory results with specimens of this sort.

If you are looking for new color subjects for your Leica, try minerals. Borrow some specimens from a mineral collector, or better still, collect them yourself. You'll be pleased, and so will your friends, with this infinitely varied subject material. ◆

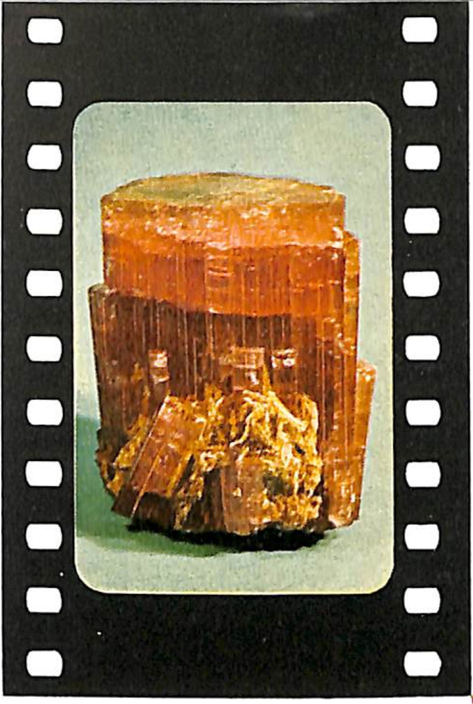


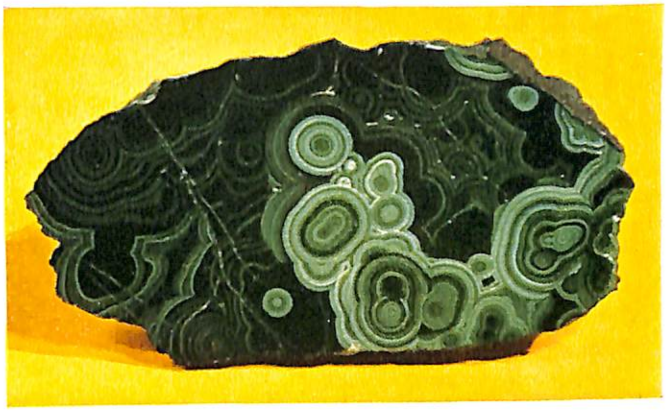
Pictured on page 8: A group of calcite crystals partially coated with hematite, an oxide of iron. This specimen was found near Egremont, England. It is 8½ inches long.

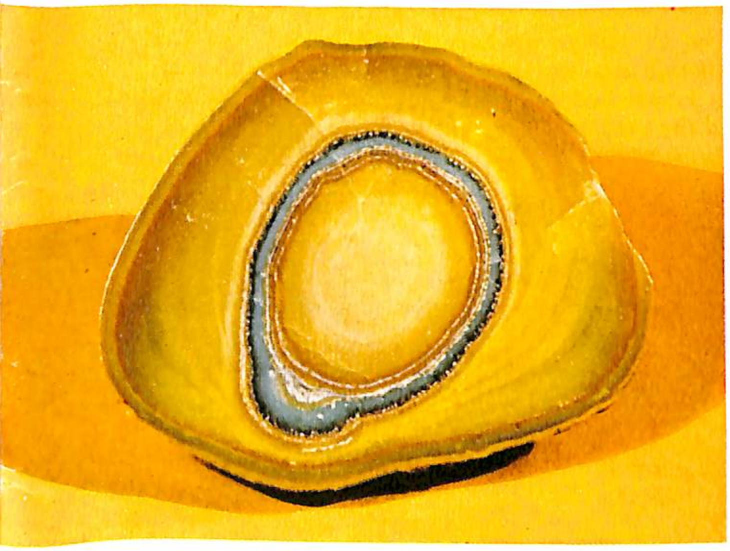
Above Left: An aggregate of microcline felspar, variety amazonstone, and smoky quartz. This excellent group was found in a cavity near Pike's Peak, Colorado. It is 6 inches long.

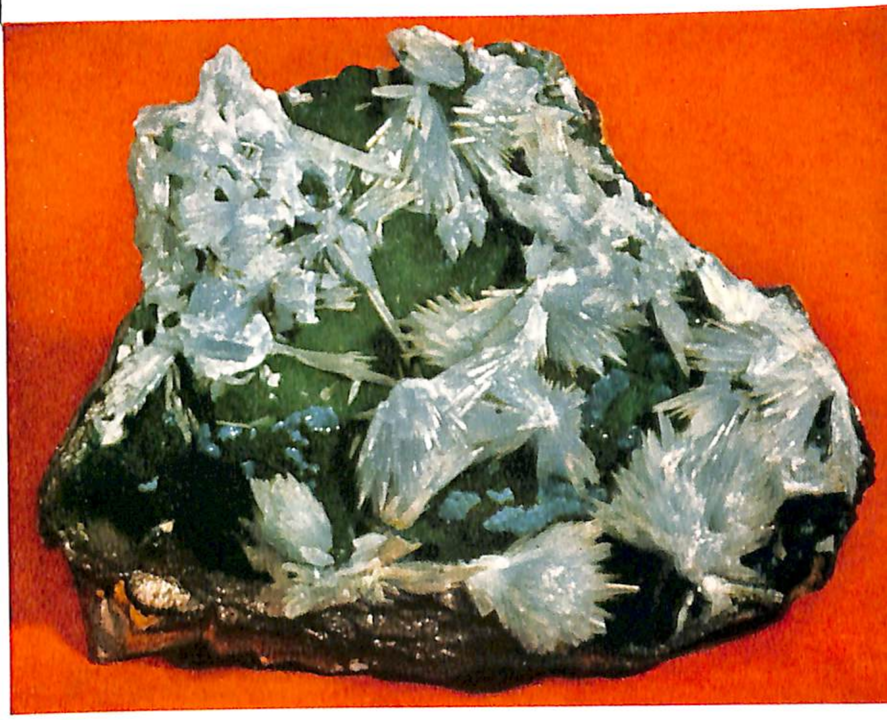
Above Right: An eye agate showing perfect banding. This specimen from Brazil has been cut and polished. It is 6½ inches long.

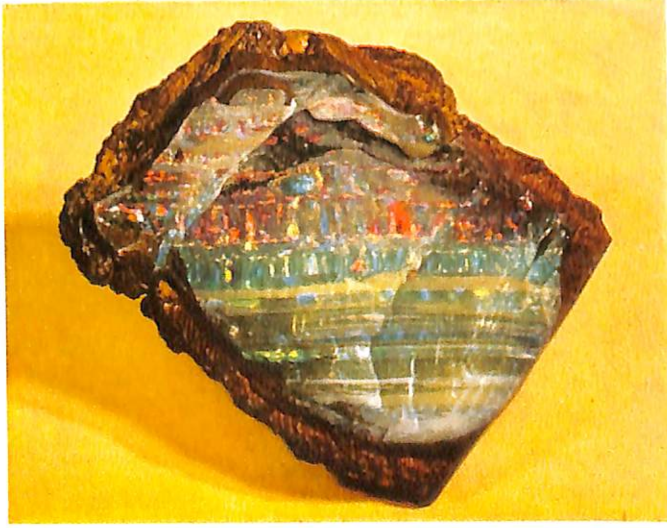
Below: A remarkable aggregate of curved gypsum crystals from Brewster County, Texas. The specimen 3 inches long.











Top left
A large crystal of pink tourmaline from Pala, Calif. Tourmaline, a silicate of baron and aluminum, is mined when it occurs in crystals such as this for its gem value. This crystal is 4 inches high.

Top right
A polished specimen of malachite from the Belgian Congo, Africa. This mineral, a hydrous carbonate of copper, has been mined as an ore of that metal and for ornamental uses. The specimen is 7½ inches.

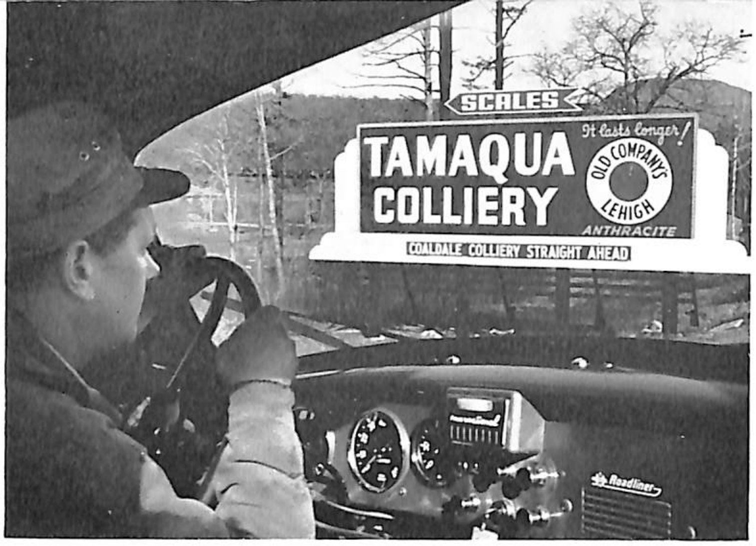
Center left
A polished section of a stalactite of smithsonite from Sardinia. Smithsonite is a zinc carbonate. When the mineral is found in this color it is known by miners as "Turkey-fat ore". Smithsonite was named for James Smithson, founder of the Smithsonian Institute at Washington. The specimen is about 4 inches in diameter.

Center right
Aragonite crystals (pale blue) on tyrolite (olive green) from the tyrol. This superb specimen is 6 inches long.

Bottom right
Precious opal occurring in limonite, a hydrous iron oxide. Opal, silicon dioxide containing water, often replaces buried trees forming petrified wood. This specimen is from Queensland, Australia. It is about 3 inches in diameter.

HOW LEICA SOLVED THE PROBLEM

(Editor's Note: This is a new feature which we hope you'll like. Its purpose is to show how one picture, taken with Leica equipment, solved a problem where other equipment failed. Please send us more for this series.)



by George Harvan, Lansford, Pa.

I would like to tell how the Leica, fitted with a Summaron wide angle lens, performed a job for me which was made into the finest cover ever seen on the annual report of the Lehigh Navigation Coal Co.

The coal company, of Lansford, Pa., commissioned me to make a photograph, for the annual report, which was to be of one of its recently erected signs located in eastern Pennsylvania and New Jersey.

As the signs were erected primarily to catch the eye of the coal truckers, I felt the trucker should be part of the general picture. The problem now was to show both the trucker and the sign in their relative positions. The natural procedure would be to photograph the coal trucker coming down the highway and, as he approached the sign, catch him glancing out of the corner of his eye at it.

As I had to take the photograph from inside the cab, I gave up any idea of shooting while the truck was in motion. First I tried a 4x5 with a wide angle lens—the camera was too bulky and I was unable to get back far enough in the cab. The 2¼ reflex was tried—not enough area was covered to make the photo usable. Then I switched to the Leica and this combination solved the problem. The lens permitted great depth-of-field with a fairly fast shutter speed to insure all around sharpness. I used Plus-X film; 1/100th at f/11. ◈

* * *

by Ben Ross, Brooklyn, N.Y.

Parade's huge Philadelphia printing plant grinds out 3,500,000 copies of its national Sunday supplement each week. I had a real challenge recently when given the assignment of photographing the plant in operation. Leica solved my problem.

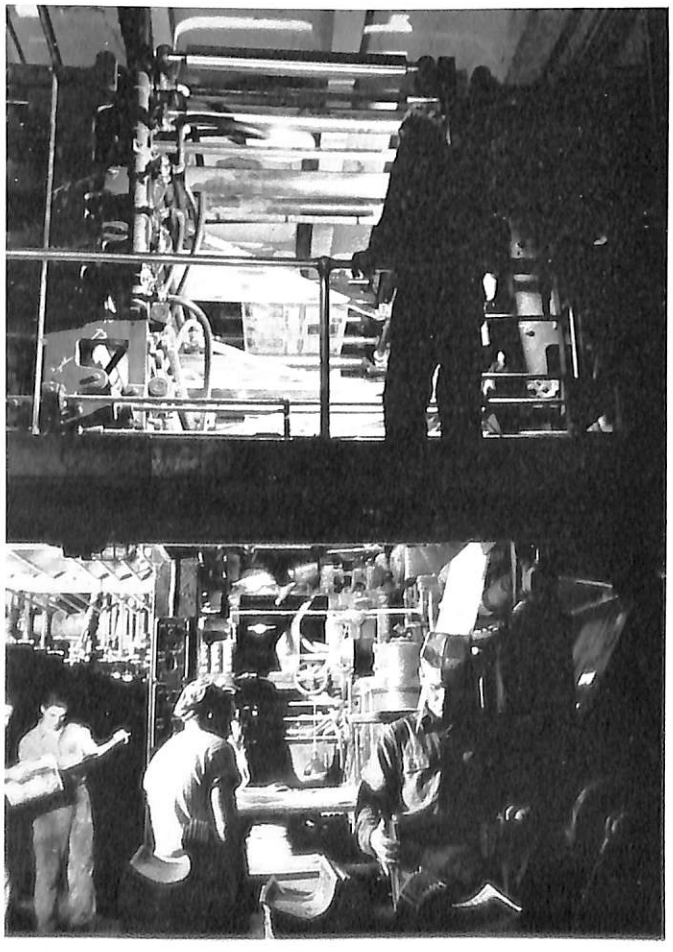
The plant is a busy, crammed-full-of-equipment establishment that works 24 hours a day, 6 days a week. On the one day when the plant does not operate it is unsuitable for pictures since the whole setup is torn up and the presses replated for the next issue.

Several attempts, by other commercial photographers, to photograph the plant in action proved unsuccessful. I was "loaned out." Forsaking all of my other equipment, I took only my Leica IIIf with Summaron wide angle lens. At least I wouldn't have any heavy cameras to lug around!

The production people were most helpful and indeed anxious to see some one get a good picture of the presses in action. It was impossible to stop the presses.

One of the most interesting possibilities was a huge two-story press. Without taking the man away from his job, I had a pressman on the top floor hold a flash extension. I asked one of the plant supervisors standing on the "ground floor" to hold another flash extension.

The whole thing took only five minutes and three exposures at 1/100th of a second at f/16. A faster speed would not have given me the desired motion of the papers going through the press. Illumination was supplied by two No. 5 flash bulbs. I calculated my exposure with the Leica flash factor card. ◈



HANDFUL OF POWER–
THE LEICA FLASH UNIT

Leica flash synchronization is the only built-in system that performs perfectly at every shutter speed from 1/25 to 1/1000 second. While the flash unit is basically designed for the Leica, its exclusive features will work equally well on other cameras.

This unit is so compact you can hold it lightly in your hand, or slip it into your pocket. It weighs only 9½ ounces.

An exclusive feature is the matte finish aluminum reflector that folds like a ladies' fan. It diffuses light evenly over the entire picture area and eliminates hot spots. A simple adjustment centers bulbs of all sizes. The midget bulb adapter—with push-button ejector—slips easily into the regular bulb holder.

The battery case has a 22½-volt battery capacitor unit. It mounts in the accessory clip on the Leica. A threaded tripod socket in the case makes independent mounting possible.

Get the most from your Leica with the sure-fire Leica flash unit. Try it now for outdoor color fill-in. Priced at $24, it's available at your franchised Leica dealer's.

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LEICA PHOTO BY MARIO GARETTONI, ROME, ITALY

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